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General Articles

SOME ADVERSE EXPERIENCES IN VETERINARY PRACTICE*

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All men are liable to error; the man who says he has never made a mistake is like unto the rider who has never been thrown—either "the truth is not in him" or he is a man of little experience.

I have made many mistakes, I do so at the present time, and unless there is a great change in what we call "Providence," it is only reasonable to suppose that I shall continue to make many more in the future. I am grateful for my mistakes, and the lessons they have taught me: on many occasions, I have profited more from the point of view of increasing my knowledge by my mistakes, than by my success. As a general rule, the successful termination of a case teaches but little. One does not know if the diagnosis was correct or even, if one is honest, why the patient recovered.

Now, if we do make a mistake, we do not swell with pride over the progress or the result of the case. If the patient survives sufficiently long, we are constrained to search ourselves, our fellows, and even the literature on the subject in an effort to attain a better understanding of the patient, and the pathological processes which are at work within or without its body.

In a successful case, how does one really know if one's care of the case, from start to finish, was correct? Our old and most valued ally, *Vis Medicatrix Naturæ*, may have worked in spite of all our efforts.

The fear of making mistakes is the bane of the student's and of the young graduate's life. It may be some solace to them to remember: "There is no error to be named which has not had its professors." In college, the student is taught that you must do this and you must do that, and long and often boring dissertations are given on disease in all its aspects. Each disease is wrapped up in its own parcel of signs and symptoms, which have to be learnt off after the manner of a parrot. Each teacher stresses the importance of his own particular subject, irrelevant details are often emphasised out of all proportion to their importance, and it is small wonder that the average student's mind becomes exceedingly confused. Now when this student comes into contact with the experienced practitioner, his confusion is more confounded, for the predominant advice he receives seems to be based on a series of "don'ts." The practitioner will say, "now don't do this and don't do that, for if you do, such and such a thing will happen."

I have no doubt that these precepts are the product of the school of hard experience. Can you wonder that, fresh from such types of instruction, the young man's mind is apt to be in a state of chaos? His uncertainty is so great that he is truly qualified to enter upon the most valuable part of his life, *i.e.*, that in which he makes his mistakes and profits thereby.

I well remember what a source of comfort it was to me, a young graduate, to learn by contact with my elders that I was not alone in my blunders. How I admired their *sang froid*, their facile way of carrying off such unwelcome incidents, and surmounting triumphantly such trivial difficulties as inquisitive, rude or litigious clients. On enquiry, I was to learn that this most beneficial acquirement went by the name of "Handling the Client." From many I learnt that it was the most valuable of all professional attainments. Now this gift seemed to be somewhat divine, for I found that as a rule those who were held in greatest eminence by the public were the greatest exponents of the art. There certainly was something of a divine right in it also, for I noted that it often ran through a family, and suffered no attenuation thereby. I call this art true professional diplomacy. A similar state of affairs exists amongst our political leaders, and therein lies the justification for its use by humble citizens.

Rude and vulgar people say that an expert in this art can preserve his reputation even before his professional brethren. The credulity of the average professional man is amazing. Take, for example, the glamour attached to the word "London" in our profession. The average provincial has a tremendous regard for the man from London. I know that you would listen attentively, and most probably you would pass a hearty vote of thanks to, a canine practitioner from the Metropolis if he came here and gave you a paper on the cow's udder. A friend of mine, a Harley Street physician, tells me that the average doctor, when sick, will

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lap up his words, no matter how far-fetched they are; better than will any lay client.

After nearly twenty years of experince, I find that I still make mistakes. I often make the same error twice; I try to avoid further repetition and, thanks no doubt to my ready eyes and ears while at the Veterinary College, I have attained some degree of proficiency in extricating myself from all but the most difficult circumstances. Should, by any mischance, any of the latter arise, I am more favoured than you are, for I can immediately seek the aid of my colleagues. They always readily rally to my help—in fact, one might almost say they welcome the opportunity, for they are men proud of their prowess and greatly learned in this art of diplomacy!

Most of my early mistakes were due to the fact that I sought the obscure and missed the obvious. Some were due to my youthful presumption that I was wiser than the old hands and the lessons of the past. There came a time when (having shaken off the coils of college training, and some of the arrogance of youth) I took stock of the situation. The outcome of this was that I laid down certain precepts, which I treasure to this day, and which have helped me over many a stile. I append them herewith, that you may judge of their worth:—

(1) Whatever the case you are called to see, it is about a 90 per cent. chance that it will be something which will give no anxiety in diagnosis or treatment.

(2) Appear to do a lot, but really do as little as possible and so give nature a chance.

(3) The simpler the drugs, the better the result.

(4) Never under-estimate a case to the client; he will not like it, and further, it leaves nothing in hand if the case should unfortunately go the wrong way.

(5) Always let the client speak first. You thereby avoid many unpleasant incidents such as giving views which may be contrary to those of your neighbour.

(6) Speak kindly of your neighbouring colleagues. Discourage the client who speaks ill of them. With such a client you are most probably the next victim.

(7) In doubtful cases of lameness in the fore limb, it is an almost 70 per cent. chance that the foot is the seat; and in the hind limb similarly, the hock.

(8) When asked to give a prognosis—a difficult proposition at the best of times—ask yourself the simple question: "Which is on top, the disease or the patient?"

Bearing in mind these axioms, I have, in recent years, been able to sail on a more or less even keel through much rough water, and I venture to hope that these precepts may be of some help to the younger graduates.

I will now recount some of the unfortunate incidents which have taught me much:—

I had under my care a good-class chestnut hackney, aged seven years, lame in the near fore. The lameness was of some months' duration, and I was of the opinion that he was lame in the foot, probably due to low ringbone or pedal ostitis. The owner, a German baker, had other ideas, and a blind man could see that my arguments were not producing conviction. I volunteered to prove my contention by local anaesthesia. Complete block of the digital nerves was effected. In five minutes the cob was going a level 1, 2, 3, 4. He evidently appreciated his relief from pain, and to show his gratitude, he performed in the best show-ring style, to the great delight of his owner, myself, and the local populace. We hammered him up and down a granite sett pavement, vieing with one another in eagerly calling for a further show. Everyone was at last satisfied and the horse returned to the stable. A few hours later, I was told that the cob was uneasy, and that he was swollen and painful around the pastern. I casually examined the horse and remarked that the condition was no doubt due to the injection, and that he would be all right by the next day. Morning brought no alleviation of symptoms; in fact, conditions were worse. Making a more careful examination, I was shocked to discover that the os suffraginis was literally in pieces.

So ended *Lesson No.* 1, with its moral—"Don't trot a plantar-blocked horse on the hard road without due care."

I was called to a second calver in difficulties with parturition. The fore legs were presented but the head was back. It was an easy case to rectify and with little difficulty a small live calf was delivered. I put my hand in the uterus and found a second calf which was also safely delivered. I washed up and left the case with instructions to the owner to call me again if necessary, for he was a poor man and lived a considerable distance from the surgery. A week elapsed, and I received a post-card saying that the cow had not cleansed properly, and that she was off her food. On examination, I found an obviously ill beast, with a stinking vaginal discharge. There was no cleansing exposed. I put my arm into the uterus, and much to my surprise and horror, discovered a further calf, macerated and stinking. This was removed piecemeal and the uterus fully examined and douched. The cow eventually recovered, but only after a protracted illness and convalescence.

Lesson No. 2: "Always examine the uterus after the delivery of a foetus, even if that be the second one."

While I was in the midst of my medical studies, I was asked by my brother to visit on his behalf a cow which was at a farm quite near to what was then my residence. I found a good-class cow which had calved the previous afternoon, and had not cleansed. The membranes were apparently quite healthy, and hanging to the hocks. The cow appeared to be quite fit, eating, and suckling the calf. Now by unfortunate chance for the cow, the owner, and my subsequent peace of mind, I was in the throes of my midwifery course. In the human, as in the mare, the foetal membranes must be removed as soon as possible. In woman they are removed immediately after the parturition. I had listened to many distinguished lecturers who stressed the latter fact, and who laid great emphasis on the dangers attendant upon delay. I was young, my mind was attuned to imbibe anything new, and I am afraid that I forgot the lessons of the past in things veterinary. I thought, "Now here is a chance to show that old customs are wrong." I decided to remove the offending membranes and, in justice to myself, I was aided and abetted by the owner, who had as little common sense as I. With all aseptic and antiseptic precautions, I set about the job—which was much more difficult than I had anticipated. I was particularly impressed by the tenacity of the cotyledons. On reporting to my brother, he was aghast at my action and he told me there and then that the cow would die. This perturbed me, for he was a man of much experience. However, what had been done could not be undone. The cow died the next day.

> *Lesson No.* 3: "That successful methods employed by generations of experienced men cannot be upset by any young tyro. What is correct for one species is not necessarily so for another species. Nowadays I would never attempt the removal of bovine foetal membranes until a period of three or four days had elapsed."

By great tact, I was able to preserve the client's faith in my abilities.

Shortly after qualifying, I was called to a horse reported to be very ill. I found an eight years old coal horse standing, in obvious distress, blowing hard and steaming, and covered with rugs. The owner informed me that the onset was rather sudden (the horse had been to work that day) and that the temperature was 105°. The latter I verified. There were no signs of colic, no throat symptoms, and my attention was drawn to the chest. I auscultated, and my inexperienced ears recognised all sorts of adventitious sounds—râles, crepitations, rubbing, etc. I diagnosed pneumonia, prescribed mustard, gave a hypodermic of nuclein (which was then very much in favour), combined with this some strychnine, and left the usual fever draughts, etc. With morning came enlightenment, for I entered a yard of grinning carmen and horse keepers, to find my patient much easier, but with a near hind as big as three, considerable pain, inguinal glands which he could not bear you to touch, and all pneumonic symptoms gone.

> *Lesson No.* 4: "When called to a horse with a suddenly occurring fever, always palpate the inguinal glands. He will most probably lift his leg and thereby indicate the onset of lymphangitis."

An urgent message was received to attend to a milk-fever case in a dairy shorthorn. It was a typical case. I found the cow down in the far corner of the homefield, some 300 yards from the farm buildings. She would rise and stagger about, but was soon down again. The field was wet, and in an unguarded moment I decided to try and get her to a box before inflating the udder. After considerable exertion and many falls we succeeded in our attempt. The beast literally fell into the box. I prepared for inflation, but before this was completed the cow became very uneasy and shortly afterwards died.

Post-mortem revealed a rupture of the liver and death from haemorrhage. I have no doubt that the rupture occurred in the course of removal to the box, for when first examined her membranes gave no indication of haemorrhage.

> *Lesson No.* 5: "Attend to such a milk fever case on the spot, wherever it happens to be found."

A hunter was going strongly over a ploughed field when he suddenly went lame. Pain was acute, and it was only with the greatest difficulty that he was moved to the road and floated home. A veterinary expert, a friend of the owner, saw the case, and diagnosd a fracture of the pelvis. The local veterinary surgeon, over-awed by the greatness of the expert, took it for granted that the diagnosis was correct. It was agreed that the best line of treatment was to put the horse into slings, and keep him absolutely at rest. Progress did not occur, the case growing steadily worse. Reassuring words were spoken and the treatment continued. A third veterinary surgeon was called to see the horse; he examined the foot and with difficulty extracted a foreign body, which had penetrated to the coffin joint. The first and second veterinary surgeons proved to be masters of diplomacy.

> *Lesson No.* 6: "Remove the shoe and examine the foot, even if the horse has a headache. Do not put too much faith in experts, to the detriment of your own common sense."

A farmer client paid a lot of money for a pedigree shorthorn bull. After some months blood came from the bull's sheath whenever he served a cow. One of the usual growths was

suspected; in fact, a small lump could be palpated through the sheath just behind the testicles. As I wished to make a good impression, and to do a more scientific surgical job than the method of towel and scissors usually employed in such cases, the bull was cast and chloroformed and, under strict aseptic precautions, I opened the prepuce over the lump. The penis was extracted with the greatest of ease, and the lump was found to a papilloma. I dissected this from the penis, repaired the area with fine catgut, and closed the preputial wound in layers. First intention healing occurred, and I was very proud of my so-called superior methods. The sequel was not so good, when the bull was again put to service. He never drew his penis again, he was a very considerable financial loss to the owner, and as a result, I lost a very good client. (In my more mature moments, I question the term "good client," for a man who leaves you for one defeat is not worth bothering about, no matter how big he is.) Everything apparently went well in the case from the surgical point of view. I learnt later than there were no adhesions found when the bull was slaughtered.

> *Lesson No.* 7: "Stick to old methods, when they are successful. Unorthodox methods bring one no credit when they are successful, but when they fail you are left to carry all the blame."

Abortion was prevalent in a large dairy herd; indeed, it was so bad that the milk yield was deplorable. Slipping was the rule rather than the exception. By using the Ministry's live vaccine, control was effected, and things went well for about two years. Now a further calamity occurred—scarcely a cow would hold to the bull. There was some degree of vaginitis, and it was thought that this was the cause. Many and various were the treatments tried, but with little success. One day it occurred to me that hyd. perchlor. might serve well as a douche. Armed with tablets and a syringe, I arrived one morning at the farm at 8 a.m. I decided to use a strength of 1 in 2,000 and after demonstrating how to make the solution and the manner of its injection, I left, happy with the satisfaction that the farmer was quite capable of performing the operation, and that it might do some good. I returned home only to be disturbed an hour later by a most agitated client. He said that after douching he had, as instructed, turned the cows out into the home field, but would I come at once, for he thought that the beasts had gone crazy. They were running and galloping about with their tails standing straight up in the air; some were attempting to bull the others. To sum up, he was greatly alarmed, and so was I when I saw the circus. I have never seen anything like the scene which presented itself to my eye when I drove into the farm. The farmer had not exaggerated one iota. We managed to drive the beasts in, and methodically douched them out with warm water and glycerine. In an hour or so they settled down. You can imagine my anxiety when I saw 50 or 60 staid cows disporting themselves like lambs in spring.

> *Lesson No.* 8: "I took it for granted that the perchloride was the cause of the trouble, but I have never had the courage to use it again in such a site to prove or disprove this contention."

In the small animals, I have often encountered difficulties when dealing with gynaecological matters. One is frequently asked to give an opinion as to whether a bitch is in whelp or not. In my experience, this is often a most difficult task. I have on occasion given a positive opinion, but puppies have failed to materialise: *vice versa*, after giving a negative opinion, I have later been confronted with a strong litter. The abdomen of the dog is a mysterious place and the way in which it can secrete such positive things as foetuses or even tumours is amazing. I know that I am not alone in these difficulties, for many of my friends have discussed this very subject with me. If there is positive evidence, all is simple; it is the negative case which causes most trouble. It may interest you to know that the same difficulties are encountered in human medicine. A famous gynaecological surgeon, of whom it was my privilege to be a pupil, continually stressed this point. His dictum was this: "Give a positive diagnosis only when you can feel it, in the absence of this sign, always be non-committal. I have found this to be a most excellent rule to follow in our animal patients.

Most mistakes are errors of omission, not of commission. In the examination of an animal, advantage should be taken of any opportunity to explore the natural orifices, *i.e.*, the nose, mouth, ears, urethra, vagina and rectum.

I well remember a police court case in which a client was accused of using a cruel bit on a horse, and thereby causing injury to the mouth. The bit was a double-ringed snaffle in good order. The owner was poor, and in spite of his protests, lay and professional evidence for the prosecution led to a fine of ten guineas. He narrowly escaped prison. When the case was finished, he asked that a constable should accompany him and his horse to my yard. The case was inspected in the presence of the constable. There was no evidence of bit injury. There was, however, a small lacerated wound to the left of the fraenum linguae. A piece of hard stem, two-and-a-half inches long, such as is often found in chaff, was extracted. To get justice an appeal was necessary, but financial reasons precluded the owner from taking advantage of this.

I remember a big black brougham horse

which had suffered from mild abdominal pain and anorexia for several days. No faeces had been passed. I judged the case to be one of impaction. Treatment was given, but two days brought no relief. I then made a belated rectal examination, to be immediately confronted with a rupture in the roof of the rectum.

In another case, a horse was said to be unable to swallow. Casually I diagnosed a pharyngeal paralysis. Three days later the symptoms became more acute. I then examined the mouth and throat, and was able to extract a coil of flex (electric) from the pharynx. One end of the piece of wire was wedged between the fifth and sixth molars on the right side.

On another occasion, I was about to give a certificate for soundness. At the "cold show" I heard a peculiar noise, and recognised that I was dealing with a case which dealers, etc., generally call a "fluter." The mare was in good condition, and had not made a noise when galloped. I examined the vagina and found a small recto-vaginal fistula, large enough to admit a pencil.

A heavy-weight hunter was admitted as a roarer. It had been decided to operate, and I was demonstrating the case to some students, when it struck me that the noise was of an unusual character. I examined the horse with the rhino-laryngoscope. The larynx appeared to be normal, and a search was made of the nasal cavity, when a small oval hole was found in the nasal septum. This hole could be easily seen by the aid of a torch directed up the nostril.

I had under my care a dog which, although apparently quite well, suffered from alternating diarrhoea and constipation. It had been diagnosed by a veterinary surgeon as a colitis case. With this view I concurred, and prescribed accordingly, but no relief was afforded. At the end of a week I made a rectal examination and had no difficulty in palpating, with the end of my finger, a tumour-like mass which subsequently proved to be a carcinoma.

I think these examples are good illustrations of the old adage, "If you don't put your finger in it, you will surely put your foot in it."

I must now draw to a close, for probably I have bored you long enough with my blunders, foolishness, and general stupidity. Most of my errors have, as you will easily recognise, been in the category of deeds of omission due to insufficient, negligent, or casual examination. Most of them occurred when I had much less experience than I have at the present time, but all of them, I think, teach a lesson. I am not afraid to acknowledge my mistakes; no man should be, and in doing so I am in good company, for I find that some years ago Sir Frederick Smith, in a short article, did the self-same thing. I hope that a reasonable discussion may ensue for, although we cannot withdraw what has passed, it may do us, and especially the younger members, a lot of good in the future.

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Discussion

A well-sustained discussion followed, in the course of which many expressions of thanks were voiced to Professor McCunn.

The PRESIDENT (Mr. Brayley Reynolds) said the members were deeply grateful to Professor McCunn for coming to their meeting and giving such an interesting paper. He suggested that the members should confine their remarks as much as possible to the subject matter of the paper, because, speaking for himself, he felt that time would not allow of their confessing their errors with the same degree of frankness that Professor McCunn had done.

Mr. H. V. Low told an amusing story of an experience in which lotion and medicine labels had been accidentally exchanged, so that doses of chloride of zinc were being given internally. The animal he said (amidst laughter) made a complete recovery. Another of Mr. Low's recollections concerned a horse for which he had given a certificate of soundness. A few days later he received a message to say that the horse was a "bad quidder." On arrival, he found the animal to be salivating and unable to eat hay, but on examining the mouth he found a piece of wood sharpened at each end placed between the horse's upper molars. No doubt the purchaser had bought it too dearly.

Mr. H. P. STANDLEY, senior, detailed some of his experiences, and in speaking of cleansing cows, said that it was probably the best course to give the animals plenty of time; too much hurry in cleansing a cow often led to fatal results. He proceeded to stress the necessity of examining the foot in all cases of lameness and also warned members against using Fleming's tincture of aconite in draughts, as this drug appeared in some cases to have very marked effects on the throat, which would lead the owner to believe that one had poisoned the animal.

Mr. DENNETT related an experience with a lame hunter which, in spite of the fact that it turned out to have an under-run foot, showed no pain whatever in the foot when this was nipped round by pincers and tapped with the hammer. He also mentioned an unexpected case of triplets in a cow, and ended by telling an amusing dog story. A breeder always engaged him for docking terrier puppies. He was called to the place one day thinking it was for the usual task and docked the puppies without seeing the bitch, which was kept away from him because it was stated to be savage. He afterwards discovered that the puppies he had docked were golden retrievers.

Major WORTLEY also described a case of triplets in a cow. With regard to cases of lameness in horses, even if they were said to be lame in the head or shoulder, he always examined the foot and usually found the fault to be there. His experience was that they learned more from their mistakes than from their successful cases.

The HON. SECRETARY (Mr. H. P. Standley, junior), having apologised to Professor McCunn for giving him rather short notice to prepare his paper, related a case of a dog brought to him with the history that it had swallowed a small rubber ball. On palpating the abdomen he could feel what he took to be the ball or some portion of it. He advised the owner to have an operation, but to this the owner would not agree. The dog was therefore destroyed and on *post-mortem* he found what he had

thought to be the ball—an abdominal testicle, the ball itself being present in the stomach. Now, when treating a dog, he always made sure that both testicles were in the scrotum.

Mr. Porrett instanced the case of a hunter brought to him to be fired for curbs, from which it was supposed to be lame. The horse was sent in to the infirmary and fired, and before being sent back the blacksmith was asked to trim the feet. On doing so the smith found a nail in the foot of the affected limb. The horse was sent home and the owner remarked that he had never had a horse do so well from firing.

Mr. N. F. Pollock related a case in a dog which he thought had a calculus in the bladder. He operated and, instead of a calculus, he found a tumorous growth round the neck of the bladder. He thought that if he had made use of the X-ray, this mistake would not have occurred. He also mentioned a case where a colt had died from tetanus following the covered operation. In all operations he invariably made a practice of giving a dose of anti-tetanic serum, but in this case he had omitted to do so.

The President dealt at some length with points raised by Professor McCunn's paper. It was very true, he said, that the man who had never made a mistake had never made anything. A man who had never made mistakes could not have been very successful. Ninety per cent., perhaps, of one's cases presented no difficulty, but where they were likely to make mistakes was over the difficult ones such as they all met with sometimes. The fault in doing so was sometimes not altogether their own, but could be placed on the shoulders of some of their predecessors—the kind of people who claimed that they had only to look at an animal to be able to say exactly what was the matter with it. If anyone else came along and took longer to make up his mind, he was usually regarded as ignorant although it was by no means certain he was not a better man. The dogmatic, clever people led others into making mistakes which might otherwise have been avoided. If one was not satisfied with a case, it was better to say so and plead for time; a delay of 24 hours might mean the prevention of a bad mistake. He thought perhaps there might be a tendency to spoon-feed students: the best knowledge was that which one gained from one's own observation. Mr. Reynolds proceeded to recount some of his interesting experiences, in relation to the paper, in regard to the ailments and injuries of race-horses, advising his hearers to avoid the tendency that so many people had, to hunt for the obscure and ignore the obvious.

The Reply

Professor McCunn thanked all the members for the splendid reception that had rewarded his efforts. They were evidently on common ground and therefore the discussion had been wide and animated.

Like Mr. Low, he had known of mixed medicine, but not always with the same beneficial result. An old stock colic draught at home had been ʒi of turpentine in 0i of linseed oil. A colic horse came in off the road and in the absence of qualified assistance the yard man mixed a drink with the result that the animal's mouth was severely excoriated. When inquiries were made it was found that the yard man had reversed the proportion of the ingredients.

Things got mixed even in surgery: he had heard of a case in which the wrong leg was amputated. It was a good plan to mark the affected leg, before giving either morphia or chloroform, etc., in the case of proposed manipulation or surgical interference. Continuing, Professor McCunn said that he agreed with every word spoken by Mr. Standley, senior. He had met with throat trouble and also spasm of the diaphragm after administrating Fleming's tincture. He had not used this drug for many years, for, in his opinion—which might be wrong—it was not constant in its action.

Mr. Dennett had quoted a case in which there was pus in the foot and apparently no pain. He had encountered this on several occasions. He had also experienced those cases in which seemingly a small bead of pus caused excruciating pain. He well remembered the case of a big roan cart horse which on a visit to one of their contracts was exhibited because it had been slightly lame in the off hind for about 14 days. The sole was found to be under-run with black pus which spurted out under pressure as soon as the sole was opened—one would have expected the horse to be very lame. Examination proved that the horse was not unnerved.

Mr. Standley, junior, had quoted a case of an intra-abdominal testicle in which the owner had refused to permit laparotomy. A veterinary friend came to him for help under somewhat similar circumstances. Operation had been refused, death resulted and the cause of death was found to be torsion of an abdominal testicle which was as big as a small orange. After the death of the dog the client talked of litigation and it was only with the greatest difficulty that she was made to see the facts.

He wondered how many cases occurred with results similar to the case reported by Mr. Porrett. There must be many in which they treated the wrong thing and yet the end result was satisfactory to all concerned. Blister was a great friend: it gave Nature time to work. He knew of one old veterinary surgeon who when he saw that a horse was being overdone would put blister on its sides so that it could not wear harness for some time. In that way he was able to ensure that the beast got rest.

Major Wortley had evidently had similar experiences to his own. Professor Macqueen always taught that even if a horse had a headache one should take his shoe off and examine the foot. It was one of the soundest sayings of a remarkable man.

He thanked the President for his contribution to the discussion in a speech full of sound common sense. They all knew of experts in the art of "spot diagnosis." The marvellous thing was not the number of times they were wrong but the incredible number of times they were right. Most of these men, however, could not transmit their art for they could rarely explain how they arrived at their conclusions. "Spot diagnosis" was not to be scoffed at, but he did not think that it should be encouraged, if only for the fact that it gave a youngster an inferiority complex in the presence of older men. He agreed with the statement that the second opinion often sees immediately what the first opinion has been looking for probably for weeks. He had undergone this experience in both positions. One had to exercise the greatest tact in order that the client should not get the impression that number one was incompetent.

He agreed with Mr. Reynolds that nail bind was one of the most difficult lesions to diagnose and treat. At the present time he had a horse under his care which was bound by the inside toe nail. It first came under treatment six weeks ago. At the present time if shod with an inside toe nail it immediately went lame. Laminitis

and navicular disease were, in his experience, uncommon in thoroughbreds. As soon as one got away from the thoroughbred, amongst the half and three-quarter breds, the frequency of these conditions increased. He was in agreement with Mr. Reynolds that the type or method of feeding might in some way be responsible. In the case of the greyhound, which was kept in a somewhat similar way, he had never had to operate on the abdomen. Considering the frequency of such operations in other dogs, and the number of racing greyhounds, this was a striking statement.

He had long ago given up trying to prophesy death. He had seen many horses which he could have sworn had volvulus and in impending fear of dissolution suddenly get better. If one did venture to be a prophet, he thought that the pulse and the condition of the buccal mucous membrance was the best guide.

He rarely gave morphia to horses. He had seen them go into fenzy and he had also seen them walk after its administration. He well remembered two "Jaipur" transport ponies to which he gave morphia. They walked continuously in a circle from about 9 p.m. until 7 a.m., when they were destroyed.

The mysterious cases of lameness described by Mr. Reynolds were all extremely interesting. They gave great comfort also to the novice, for if such a master of the art was sometimes nonplussed, the tyro need not be ashamed of his failures.

Regarding the point raised as to spoon-feeding the student, he recalled that 80 per cent. of his own knowledge came from his own experience. Modern students did not seem to have the energy to delve for themselves. They had not sufficient enthusiasm to go to a library and read up literature on their own. Some time ago he said "good-bye" at the College gate to Mr. Dollar. He walked over to a group of final year students and asked them: "Do you know who that man was?" None of them knew—which was not surprising—but on being told that it was Mr. Dollar they enquired, "Who is he?" Students in these mechanical days preferred to be told everything. They looked upon a lecturer in the same way as the public looked upon a slot machine. They wanted their knowledge in sixpenny packets. They became merely a repetition of the lecturer, with the same mistakes and outlook upon life. A student should strive to develop his own individuality and search out his own way.

ARMY VETERINARY SERVICE

Mohmand Operations

The name of Major W. St. J. F. Macartney, Royal Army Veterinary Corps, has been brought to the notice of His Majesty by the Commander-in-Chief in India for distinguished services rendered in connection with the Mohmand Operations, North-West Frontier of India, during the period August 15th to October 15th, 1935.

London Gazette—War Office—Regular Army Reserve of Officers

May 8th.—Lieut.-Colonel T. E. Burridge, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers (April 30th).

NOTES ON SOME RESEARCHES INTO ANIMAL DISEASES*

T. DALLING, M.R.C.V.S.

I propose to discuss this afternoon some observations on the following:—

(1) Tetanus in the Horse.

(2) Tuberculosis in Cattle.

(3) Distemper in the Dog and Cat.

(4) Leptospiral Infection in the Fox.

(5) Some of the diseases affecting Poultry.

Tetanus in the Horse

Recently there has appeared in the *Veterinary Record* some correspondence on the value of tetanus antitoxin in the treatment of horses affected with tetanus. My remarks will be confined to the prevention of tetanus. Two methods can be used: (*a*) the use of tetanus antitoxin, *i.e.*, passive immunisation; (*b*) active immunisation.

Tetanus antitoxin is valuable in preventing tetanus provided it is injected at a suitable time. For many years passive immunisation was the only method at the disposal of veterinary surgeons in preventing the disease. Many veterinary surgeons inject the antitoxin following operation or accidents in which there occur wounds of the type likely to allow propagation of tetanus bacilli. There is no doubt regarding the efficacy of this treatment, but the risk of wounds passing unnoticed and the subsequent development of tetanus is considerable in some districts; while the owners, as is their custom, very often treat apparently simple wounds without calling in veterinary assistance and thus the chances of tetanus occurring are considerable. Further, many cases of tetanus occur without the presence of obvious wounds and prophylactic treatment with antitoxin naturally cannot be given. Horses do not possess natural tetanus antitoxin. Over a period of years tests for the presence of tetanus antitoxin have been made on the many hundreds of horses purchased by us and in no case in which the animal had not been previously treated has any trace of such antitoxin been found. When a horse has been injected with tetanus antitoxin there is a gradual elimination, till after a few weeks only a small amount is left, probably not enough to protect.

Within the last ten years it has been shown that active immunisation against tetanus in horses can be carried out. A material termed "tetanus toxoid," prepared by the addition of formalin to tetanus toxin, is used. More recently it has been shown that the addition of

*Paper presented at the Annual General Meeting of the Lincolnshire and District Division, N.V.M.A., at Grantham, February 21st, 1936.

alum to tetanus toxoid, resulting in the formation of a precipitate, has greater immunising value. This substance is referred to as "Tetanus Alum Toxoid." The use of this preparation has been carried out to a large extent, especially in France. In 1929, 35,000 horses in the French Army were immunised, and whereas the normal incidence from tetanus was 4·5 per cent. with a death-rate of nearly 4 per cent., following vaccination only three mild cases were reported, all of which recovered, *i.e.*, the incidence was 0·6 per cent., with no mortality. One injection only was given. Recent experiments carried out in America and in this country indicate that one dose of 10 c.c. produces a high, lasting degree of immunity and that a second dose injected some weeks or months later increases the immunity. The amount of immunity in any horse can be examined by testing its serum for antitoxin content. Tests made on immunised horses show that the immunity remains high for long periods.

Active immunisation against tetanus seems to be worth considering by veterinary surgeons in districts in which the disease is prevalent.

Tuberculosis in Cattle

For some years we have been interested in the use of tuberculin in the eradication of tuberculosis in cattle. Our interest began when, by kind permission of some of our local veterinary practitioners, a few badly-infected herds of milking cows were placed at our disposal for the purpose of testing tuberculin. I do not propose to discuss tuberculin reactions except to say that tuberculin made on "synthetic" media seems to obviate some of the difficulties in the interpretation of the reactions in both positive and negative reacting cattle found when the older types of tuberculin were used. It is rather with the experiences we have had in clearing up tuberculosis in herds that I wish to deal. It might seem that on an ordinary dairy farm if two sheds and two pastures entirely independent and properly fenced off are used it should be possible to keep a group of reactors and non-reactors on the same farm. In our experience this did not work. We had little success in building up non-reacting herds till we were able to make use of a "nursery" farm on which "clean" milk-producing cows were kept for calf rearing. Calves born from infected cattle, if removed directly after birth and not allowed to suckle their dams, can, in most cases, be kept free from infection. Some deaths in young calves will occur if they are not allowed to partake of colostrum, but the losses from this cause are small and economically are of little value compared with the benefit accruing from the rearing of the remainder free from tuberculosis. Calves on the nursery farm are fed on milk from the "clean" cows and are kept isolated till their first test, which we have carried out at two months. Infected young calves may show very large reactions to the intradermal test, as do recently-infected cattle. (We have seen enormous reactions in "clean" cattle among which infection was recently introduced.) The calves so reared are now tested every six months and form the nucleus of the new "free" herd.

In the eradication of tuberculosis in an infected herd, if the incidence is low, testing with tuberculin at short intervals with the immediate removal of the reactors may be successful in time. So-called "doubtful" reactors must always be classified as reactors, for in our experience they may do endless damage. Short period testing seems very necessary—every three months as a beginning and then every six months. Our experience is that twelve months, even in a clean, self-contained herd, is too long an interval between tests.

We have also compared the value of the single test, carried out in the caudal fold, and the double intradermal test, and have found a very marked degree of agreement. We have evidence, however, that in a few cases the second injection is necessary before a positive reaction will be found. I am not yet convinced that the single injection method would not do as well if the slightest deviation from the normal is regarded as a reaction and if the final reading is made several days after the tuberculin is injected, for we have cleared up tuberculosis in several groups of cattle by using the single caudal fold test only.

We have also been able to study the elimination of tuberculosis from an economic standpoint. The farmers with whom we have worked are loud in their praises regarding the benefits they have derived from having "clean" herds. Allowing for the cost of testing, the disposal of reacting cattle by gradual elimination (retaining them on a separate farm till convenient to dispose of them) and the rearing of calves on "clean" premises, they have been amply repaid by the subsequent general healthy condition of their "clean" cows.

We have received many shocks and set-backs in our work and as the result of our experiences we would suggest that the following points are of the utmost importance: (*a*) regard every cow, etc., affected until proved by at least two tests to be free; (*b*) in cleaning up herds, two farms are necessary; (*c*) in rearing calves from a reacting herd the only method of keeping them clean is to remove them at once after birth, without allowing them to suckle, to clean premises where they are fed on milk from known "clean" cows; (*d*) no doubtful reactor should ever be kept in a "clean" herd but must always be treated as a positive reactor; (*e*) repeated testing at short intervals is necessary in

cleaning up a herd; (*f*) testing in a "clean" herd should be carried out at least every six months; (*g*) the introduction of newly-purchased cattle should be done cautiously even though they carry with them a "clean" certificate. On no account should they be introduced into the "clean" herd until they have been isolated for at least two months and then have passed the double intradermal test. In some cases this may not be sufficient and longer isolation with further tests may be advisable.

Distemper in the Dog and Cat

The name "distemper" must eventually be cut out from our literature, because as used to-day it means any infection in which a certain train of symptoms appears but which may be due to one of several causes. In the dog a definite disease is set up by infection with an ultramicroscopic virus first described by Carré and later worked on by Laidlaw and Dunkin. It is to infection with the virus that the term "distemper" is meant to apply, but there are outbreaks of disease of an apparently infective nature in which no trace of this virus can be found and they also are classified as "distemper." There is no doubt that much illness among dogs is caused by an initial infection with virus, but many of the symptoms and lesions found in "distemper" are caused by the action of secondary invaders (micro-organisms and probably other viruses). Our home-bred, highly susceptible dogs show only a mild, transient illness following virus infection. The infected dogs show what we describe as a typical response to the virus, *i.e.*, a sudden rise in temperature—up to 104°F. or more—about the fourth day and then either a gradual subsiding, or probably a second rise and then a gradual lowering of the temperature to normal. There may be some diarrhoea and some little watery discharge from the eyes and nose. Cough is not always present. We seldom, however, find any further symptoms and the dogs soon return to normal health. We can only account for this by the fact that our dogs have been reared for several generations in complete isolation. It seems conceivable that some dogs harbour micro-organisms which, following the introduction of the virus, soon assume pathogenic characters. In some cases there seems to be a greatly increased degree of virulence in these micro-organisms so that they can cause disease in the absence of virus or in dogs immune to virus.

All dogs are not equally susceptible to "distemper"—even dogs of the same family may not respond equally.

Prophylaxis is carried out by the use of vaccine and virus or virus and serum. Many excellent results have been recorded. A very few actual breakdowns have been proved. Nervous "distemper" is always interesting. There is certainly a disease of the nervous system caused by virus, but there are others in which virus is not the cause, *e.g.*, encephalomyelitis as recorded by Perdrau and Pugh.

In immunising dogs, great care is necessary. The whole process is intricate because living virus is used and veterinary surgeons must realise this and adopt proper precautions. Many of the precautions can often be dispensed with, but in the odd case they are very necessary. Hence, they must always be adopted. Serum is useful if given in large doses early in the course of the disease. Serum seems of little use if secondary infection has occurred, and such may occur very early in the course of the disease. In this connection I see that McKinna in the *Veterinary Journal* recently had good results if a second dose of serum was given later in the course of the disease.

Investigations are now proceeding on "allied" diseases. In America, so convinced are some workers that secondary infecting micro-organisms are the true cause of trouble, that they incorporate in serum antibodies of these organisms.

In the cat the term "distemper" is also loosely used. From our observations and examinations it would appear that there are two main infectious diseases of the cat, *viz.*, infectious enteritis and an infectious disease affecting primarily the respiratory system. In this latter disease there may be involvement of the gastro-intestinal tract later. We have made observations on both diseases, but most of our work has been on infectious enteritis. Following the observations on the disease in this and other countries, we have confirmed that the cause is an ultravisible virus which can be recovered in considerable amounts from the spleen and mesenteric lymphatic glands. This disease is sudden in its onset and very fatal. It is marked by great depression, usually vomition and profuse salivation. Evidence of pain is noted on manipulation of the abdomen. Infection persists for long periods and is difficult to eliminate. It has been shown that the disease can be prevented by the injection of vaccine prepared from the spleen, etc., of infected cats. Controlled field experiments have confirmed the results found in the laboratory.

Leptospira Infection in Foxes

Foxes bred in captivity have their diseases. Among the most important infections of the fox in this country are leptospira infection, diseases of the gastro-intestinal tract caused by members of the Salmonella group of organisms, and some nervous diseases of obscure origin. Distemper caused by the "canine" virus has not yet been proved to have caused much trouble in foxes in this country. Foxes are somewhat resistant to

artificial infection with distemper virus of dog or ferret origin, but they can be infected if the virus is passaged through several foxes. In all probability, natural infection follows a similar course. We know, of course, that the disease can cause much loss for, some years ago, it made its appearance in a part of Canada and heavy losses were experienced.

Leptospira infection in foxes pursues much the same course as in dogs. Young foxes suffer mostly and the infection is usually accompanied by the occurrence of jaundice as shown by the colour of the skin, mucous membranes, etc. The death-rate in infected animals is high, though an outbreak may be definitely limited in its extent. The vectors of the parasite are undoubtedly rats, and the infection arises from the eating of food or the drinking of water, etc., soiled by the urine of "carrier" rats. It may be possible to prevent rats from having access to the fox pens, feeding materials, etc., but when this cannot be done prophylactic immunisation can be carried out. Many fox farmers have their cubs immunised every year by the injection of one, or preferably two, doses of vaccine. This treatment is apparently highly successful. Veterinary surgeons in fox-rearing districts have taken up this type of work and their reports are satisfactory. Some fox farmers do not seek advice until at least one affected fox has been found. In such circumstances it is advisable to practise passive immunisation at once by the injection of anti-leptospira serum into all the pen mates of the affected fox. This will give protection for probably two to three weeks, after which time active immunisation, *i.e.*, the injection of vaccine, may be carried out.

Diseases of Poultry

Among our various duties is included a study of some of the diseases of poultry. The poultry industry has increased within recent years and to-day it is worth many millions of pounds. Disease, however, is rife in the flocks and we feel that on the whole there is not much being done to reduce the enormous losses. We feel, further, that the veterinary profession is not yet taking sufficient interest in the welfare of the poultry flocks. It is true that the industry is comparatively young, but there seems no reason why veterinary surgeons should not be acquainted with at least the commoner types of infectious conditions and be able to give the necessary advice for their prevention and control. More interest is certainly being taken now than formerly, and in this connection I need only draw your attention to the course of lectures on the subject being run by the North of England Veterinary Association.

Diseases of poultry can be broadly classified as: (1) infectious and parasitic, (2) diseases consequent upon strain on the reproductive organs, and (3) disease following lack of stamina, errors in breeding, errors in management, etc.—the so-called "mortality" in poultry. It is, of course, impossible to do more here than mention very briefly the salient points regarding the commoner diseases causing heavy losses.

Pullorum Disease (*B.W.D.*) — caused by *S. pullorum*, which is harboured in the ovary of "carrier" hens. Infected eggs are laid, in which the developing embryo may die or from which infected chicks may be hatched. Such chicks may die and may have infected all or many in-contacts in the incubator and brooders. They may, however, survive and become in their turn "carriers." Sometimes general infection occurs in adult birds, with losses. "Carriers" can be detected by the carrying out of agglutination tests, which is largely practised to-day. By this means the "carriers" can be eliminated from the breeding flocks.

Coccidiosis, caused by a protozoan parasite, may cause heavy losses among chicks. The infection is intestinal and in chicks the caeca are affected. Haemorrhage is the characteristic finding. The life history of the parasite is well known and, knowing that a certain time outside the body is necessary for the completion of the life history, steps can be taken to prevent re-infestation and so cut short an outbreak. Coccidia also occur in older birds and in some flocks appear to cause some damage.

Fowl-pox is a controllable disease. An ultra-visible virus is the cause and gives rise to lesions in the mouth, nose, comb, eyes and skin generally. The disease can readily be differentiated from other affections, presenting somewhat similar symptoms. Fowl-pox can be controlled by the use of vaccine. In this country vaccine consisting of live pigeon-pox virus is mostly used and is rubbed into a scarified area of the skin, including the feather follicles.

Tuberculosis is on the increase. The avian type of tubercle bacillus is the cause. Infection is intestinal in origin and may involve most organs, including bone marrow. The course is insidious in character. Tuberculin testing can be carried out by the injection of avian tuberculin into the wattle or into the lower eyelid. The results can only be said to be fairly satisfactory. One of the important points regarding avian tuberculosis is the part it plays in tuberculosis of the pig and cattle. It may be that infection with avian tubercle bacilli bears some relationship to the sudden appearance of positive reactors in a clean herd of cattle.

Acutely infectious diseases occur in poultry and may cause heavy losses. Such diseases are fowl cholera, fowl typhoid, laryngo-tracheitis and Newcastle disease. All have their diagnostic features, but in most cases a laboratory examination is necessary before a diagnosis can be

made. One of the important points in connection with these diseases is the source of infection. We do not yet know the actual reservoirs of infection, though in fowl cholera particularly we know that carrier birds exist and that when resistance and vitality are lowered they may become acutely affected and act as further sources of infection, causing an outbreak with heavy losses. In this group may also be included a condition referred to as infectious catarrh which, though not causing actual loss by death, gives rise to much economic loss by a drop in egg yield and general unthriftiness.

Blackhead in turkeys presents a serious menace in some districts. Caused by the action of a protozoan parasite, it is recognised by lesions in the liver and caeca. Claims have been made that arsenical compounds are of value in prevention and in effecting cures and there is some evidence that such is the case. It is important that when such treatment is adopted the birds are moved to fresh ground to prevent reinfestation, because the arsenic is eliminated in about nine to ten days.

Mortality.—Apart from the various infectious diseases, heavy losses are recorded every year among poultry. The cause is not really far to seek. The artificial life imposed on birds to-day and the indiscriminate breeding from all types of birds in all conditions play a big part. In this group comes a condition known as *lymphomatosis* or *fowl paralysis*, which is causing heavy losses and which to-day is the subject of intensive research. Poultry keepers need much guidance on the general management of their flocks, and at the present time have to look elsewhere than the veterinary profession for it. It is to be hoped that eventually we shall be in the position to be of more assistance to them.

Discussion

The Hon. Secretary (Mr. F. L. Gooch) after expressing thanks to Major Dalling for a most able and informative paper, remarked that he had had very great success with the use of synthetic tuberculin. Proceeding, Mr. Gooch expressed the opinion that if the Government would go in for the segregation of herds they would get the problem under control. There was a difficulty, however, with regard to the introduction of new blood into the herd. He instanced a case where all the animals that showed a reaction were segregated from a herd and the herd was tubercle-free; then a new bull, which had been tested, was brought in, and it promptly introduced the disease again. Mr. Gooch disagreed with Major Dalling's statement that one injection in the double intradermal test was sufficient. The first test very often showed practically no reaction at all, but a second test showed a very strong reaction. He mentioned another herd, which he was constantly testing, either for export or for sale; if the slightest reaction was shown the animal was at once slaughtered, and he had never known one yet that had reacted and in which tuberculosis had not afterwards been found.

With regard to distemper, Major Dalling had spoken of the virus giving rise to nervous symptoms in certain animals; he had found this to be particularly so in the case of the Pekingese. He had been very fortunate in his use of virus and vaccine, and in only one instance had he had a fatal result. Mr. Gooch added that he did not use the simultaneous inoculation, as he had such good results from the vaccine and virus. In conclusion, he asked whether bacillary white diarrhoea was possible to detect in eggs for incubation.

Mr. R. Hudson, referring to the double intradermal tuberculin test, observed that he would not pass an animal as "clean" unless it failed to react to the double injection. He had noted a reaction following the second injection not at the usual time of examination (24 hours) but on the fifth day. Mr. Hudson asked whether there was any difference in the degree of resistance in calves bred from "reacting" and clean cattle.

Regarding distemper, he was interested in the possibility of nervous symptoms arising from the action of secondary invaders. He also wondered whether we were properly prepared with serum, etc., to cope with distemper in which secondary infections had occurred.

Could leptospira infection be diagnosed by blood examination? Mr. Hudson also asked what remedies could be used in the treatment of ordinary influenza in cats. Referring to blackhead in turkeys, he instanced an outbreak in which the *post-mortem* examination had revealed the liver to be in a terrible state; other birds which had recovered had continued in such a bad condition that it would have been better if they had been destroyed.

Mr. J. H. Poles raised the question of inoculating horses against tetanus, saying that he thought it was rather debatable whether it was an economic proposition. If inoculation was suggested the natural tendency would be to say that they had never inoculated in the past and never known a case of tetanus, so why start?

So far as the intradermal tuberculin test was concerned, where a good reaction was obtained from the first test it would be quite right to reject, but not to pass the animal if no reaction occurred. He wished to know, further, whether calves taken away from their dams before suckling were more likely to develop tuberculosis later.

Mr. Poles also referred to distemper in some form being prevalent in harrier kennels and to the prevalence of infections among cats.

Mr. W. Gibson referred to the duration of immunity following active immunisation of horses against tetanus and asked whether a reaction was produced at the site of inoculation of the alum toxoid.

Mr. M. R. MacFarlane spoke of the variation in his experiences in immunising dogs against distemper and in the use of serum in affected cases. He wondered if Siamese cats were more susceptible to infectious enteritis than others and whether there was any difference in the virulence of the infection in different parts of the country.

The President (Mr. W. W. Lang) referred to tuberculin testing and the isolation of cattle on their introduction into a "clean" herd. He also remarked that it was not lack of interest that prevented his taking up poultry work, but lack of time.

The Reply

In his reply Major Dalling referred first to the point made by the President regarding lack of time for the study of poultry diseases. In that case, said Major Dalling, it would seem that poultry farmers must turn elsewhere for assistance.

In reply to Mr. Gooch it was pointed out that the only way to prevent bacillary white diarrhoea was to detect "carriers" by the agglutination test and remove them from the breeding flock.

On the question of single or double intradermal injection in the diagnosis of tuberculosis in cattle, the single test to which he referred was that carried out in America, *viz.*, the caudal fold method, not read until three or four days after inoculation. He felt that if the animal was examined some days after a single injection was made a different opinion of the reaction might be formed. If anyone were working with the single reaction, they should not pass the slighest deviation from the normal.

The question had been asked whether calves reared from reacting cattle went down sooner than those reared from free cattle. His experience was that there was no difference.

There seemed to be no specific at the moment for the treatment of ordinary influenza in cats. He believed it to be due to a virus, but until that could be located nothing of a specific nature could be elaborated. His experience was that all breeds of cats were susceptible to the various infectious diseases, but Siamese and Persians seemed to suffer to a large extent.

With regard to blackhead in turkeys, slaughter of the infected birds was frequently the best thing, though in the early stages the arsenic cure was often effective.

He agreed that immunisation against tetanus was not economic in districts where the disease was not prevalent, but on the other hand, there were areas where it was particularly common.

ROYAL AGRICULTURAL SOCIETY

The King has given his permission for the 1939 show of the Royal Agricultural Society to be held in Windsor Great Park. In that year the society will celebrate its centenary, and the show will be held on the same site as its jubilee show in 1889. A letter from Lord Wigram announcing his Majesty's consent was read at a recent meeting of the Royal Agricultural Society's Council. It was mentioned that only two members remain on the council who were associated with the 1889 show—Mr. Percy Crutchley and Lieut.-Colonel E. W. Stanyforth.

Arrangements are in progress for the holding of the 1937 show at Wolverhampton and for the 1938 show at Cardiff.

The Council agreed to a suggestion that, to secure so far as possible an interval of one week between the Highland and Agricultural Society's Show and that of the Royal Agricultural Society of England, it should be the rule that the R.A.S.E. Show should each year open on the first Tuesday in July.

The council unanimously decided to offer the society's gold medal for distinguished service to agriculture for 1936 to Sir William Dampier, D.Sc., F.R.S., who was secretary of the Agricultural Research Council from 1931 to 1935, and in 1921-22 conducted experiments on behalf of the Research Committee of the R.A.S.E. on the utilisation of whey.

NOTES ON THE HYDROGEN-ION CONCENTRATION OF THE URINE OF HERBIVORA*

I. A. GALLOWAY

[From the National Institute for Medical Research, Hampstead, N.W.3.]

During the course of some experiments made in attempts to recover virus from the urine of animals infected with, or convalescent from, foot-and-mouth disease, records were kept of the reactions of the different samples examined. Similar estimations were made on the urine of uninoculated guinea-pigs and cattle for comparison. The observations made are here placed on record. On referring to published statements, it is clear that it is not generally realised that there are quite a number of factors which may influence the hydrogen-ion concentration of the urine, quite apart from any pathological condition. These factors are also discussed here with special reference to the urine of herbivora.

It is generally stated that the urine of herbivora is alkaline. This statement requires some modification. It was shown by Claude Bernard (1859) that the urine of herbivora was alkaline and that of carnivora acid on account of their diet, and that this reaction was not dependent on the species of the animal, for while the urine of dogs fed on a non-nitrogenous diet became alkaline, that of rabbits and horses fed exclusively on oats, and of calves on a highly nitrogenous diet became acid. The change in reaction was due to the chemical constitution of the diet independently of whether it came from a vegetable or animal source. He also explained that the urine of fasting animals was acid because they were living on their own substance. Smith (1912) also states that the urine of horses fed only on oats and bran is acid, and that the reaction of the urine of pigs may be acid or alkaline according to the diet.

Slight changes in reaction also occur during the course of the day, associated with the processes of digestion. In man definite "acid and alkaline tides" are generally recognised, the "acid tide" coming after a fast and the "alkaline tide" occurring during digestion, but, as has been pointed out by Hopkins (1898), one may actually get a primary increase of acidity in the urine after a meal due to increased protein metabolism, and while the secretion of the gastric juice into the stomach tends to lead to a change to alkalinity in the urine, so must secretion of the pancreatic and duodenal juices lead to a change to acidity, so that variations

*These notes have been taken from appendix III of the 5th Progress Report, now in press, of the Foot-and-Mouth Disease Research Committee.

are also to be expected during the course of the day. It may be assumed that in herbivora such as cattle, similar variations occur.

In the present series of experiments it was found that the different samples of urine collected over a considerable period from healthy uninoculated cows or heifers were never less alkaline than about *p*H 7·6. The cows or heifers from which the urine was obtained were found on later enquiry to have been on a mixed diet of mangels, pasture grass, some bran, hay and a few oats. Later, samples of urine were obtained from these same animals which were definitely acid, even as acid as *p*H 4·8 on one occasion. [In all experiments the *p*H values were estimated both electrometrically and colorimetrically. The results obtained by the two different methods were found to be in good agreement.] On enquiry it was found that, coincident with the change in the reaction of the samples of urine, there had been a change in the diet of the cows; the mangels were no longer given and were replaced by linseed cake and more oats. Examination of the urine from several different cows during the course of the day showed that great variation in the reaction of the urine from the same animal occurred, as wide as between *p*H 5·0 and *p*H 8·0. Such variations did not appear to bear any strict relationship to meal or milking times, but owing to the complicated process of digestion in these animals, this was to be expected. It should be pointed out that the estimations of the *p*H values were made very shortly after collection of the urine. There is, of course, a tendency for urine to become more alkaline on standing at room temperature even for relatively short periods. This initial change of reaction is due to loss of carbon dioxide as in the case of other body fluids. The rapidity with which the change takes place is controlled by a number of factors, such as whether the urine is in a closed or open vessel. The surface area of the urine exposed to the air also plays a part in controlling the change, as does the question of whether the urine is in a large bulk or not. The rate of this primary change of reaction of the urine can be increased by employing a vacuum pump.

The urine of guinea-pigs and cows placed on various diets was next examined. It was found that the feeding of oats with a minimum quantity of hay rendered the urine definitely acid, *p*H 5·4 or less. The change in acidity in the urine varied in different guinea-pigs, but generally took place very rapidly. Usually all my guinea-pigs under experiment are fed on hay and cabbage, or similar greenstuff, alone, and on this diet the urine has been found to remain consistently alkaline [*i.e.*, *p*H 7·6 to 8·2]. The urine of guinea-pigs which were fed on a mixed diet of oats, bran, hay and cabbage was definitely alkaline, *p*H 7·6 or higher at one time of the day, and definitely acid, even below *p*H 5·0 at another time. The urine of guinea-pigs which had become acid on a diet deficient in hay or greenstuff rapidly resumed an alkaline reaction when hay and cabbage alone were given. It was found also that the urine of cows remained alkaline if they were fed on pasture grass, hay and bran. The urine of cows on a mixed diet of oats, bran, hay, linseed cake and grass did not become more acid than *p*H 7·0 if 1·0 to 2·0 oz. of sodium citrate were given in the drinking water twice a day. All the above observations were made on healthy uninoculated animals. It has been observed, however, that in animals infected with foot-and-mouth disease, if they are very severely affected and show signs of being off their food, then the urine may become very acid even although the food supplied, hay and cabbage, is such as generally maintains its alkalinity. It may be assumed that, as in the case of starvation, the animals become in effect "carnivorous," *i.e.*, they live on their own tissues.

It was suggested to me that repeated catheterisation of guinea-pigs or cattle in the present series of experiments may have led to the occurrence of cystitis in some instances and this would account for the urine becoming acid. It has been found, however, that although repeated catheterisation of guinea-pigs on a diet of hay and cabbage was carried out during many days, on no occasion was the urine found to be less alkaline than *p*H 7·6. Further, the giving of hay or cabbage to guinea-pigs whose urine had become acid, *p*H 4·8 to *p*H 6·6, as a result of feeding on oats and bran was found to be sufficient to bring the reaction of the urine back to *p*H 7·6 or higher within 24 hours. Moreover, not all the samples of urine of cattle examined were obtained by catheterisation.

In the study of a disease due to a virus easily affected by comparatively slight changes in hydrogen-ion concentration, it is obvious that any observations made on the presence or absence of virus in urine without noting its reaction are valueless.

In view of the fact also that diet may influence the reaction of the urine, due consideration should be given to this factor in interpreting a change in reaction of the urine as an indication of a pathological state.

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Equine Skeletal Unsoundness: Some Suggestions

J. W. RAINEY, C.B.E., M.R.C.V.S.

If I may be permitted, it seems well to complete the thesis expounded by me in your issue of February 29th ("A defence of traumatism as a pathogenic factor in some equine diseases") by stating the corollary—which is that the only hope, in the present state of our knowledge, of having sound horses lies in restricting the breeding of horses to those types and to those localities which are known to be most associated with the production of sound animals; coupled, of course, with insistence upon not working immature animals.

Professor Mitchell (*Vet. Rec.* 15. 50. 1503.) had recourse to the Philippines for an example of skeletal deficiency due to a deficient environment, but he need not have gone so far to find what is only an extreme instance of a common occurrence. Nor, indeed, need he even have gone to American territory for that example, because there were published in the Fiji Agricultural Circular in 1920 similar observations by me on horses in the South Sea Islands.

The small bodied dense-boned ponies and cobs of Cornwall, of Wales, of Connemara, of Basutoland, of Colo East, and of Tonga in the South Seas, are examples of what is common knowledge among horsemen, namely, that hill-bred horses are less liable to skeletal troubles than are the equine products of alluvial plains.

Cornish horses, for instance, were preferred by the buyers of the old London horse 'bus companies because they stood the paved streets and macadamised roads better than any other horses.

Roughly, in my experience, there are three main equine types that correspond to three main environments, *viz*:—

1. The hill-bred pony or cob, *e.g.*, Dartmoor, Exmoor, Welsh, Connemara, Basutoland, Tonga.
2. The plains-bred horse raised on the best limestone grassland, *e.g.*, Irish Hunter, New Zealand thoroughbred steeplechaser, the Kentucky horse.
3. The plains-bred horse raised on alluvial soil or in agricultural districts, *e.g.*, the English Shire, the Scottish Clydesdale, and the French Percheron.

These three main types or their crosses are, as we all know, liable to skeletal troubles, such liability varying inversely to the order given, *i.e.*, the first the least. If we can determine the exact reasons for this variation in liability to unsoundness we shall have the answer or answers to Professor Mitchell's problem so far as etiology goes, but it seems to me that we shall probably have to wait very much longer and perhaps for ever to find an artificial means of avoiding the variation.

The following suggestions, which are based on exceptional personal opportunities for the intensive observation of many generations of ponies of Dartmoor origin as well as of ponies in many parts of the world, may have some useful bearing on the problem.

It used to be thought that No. 1 type—the hill-bred pony—was structurally tough chiefly because of the exercise it had and the hardship to which it was subjected in climbing about in all weathers on the hills, but we should probably agree to-day that there are, in addition, biochemical and hereditary factors to account for a superiority of quality in bone and ligament that persists for about three generations in crosses with plains-bred animals.

This apparent time-limit on hereditary transmission is an instance either of how biochemical considerations are breaking into our older ideas of evolution and heredity, or of the dominance of inferior types. Small bulk in proportion to both size and quality of bone—constituting perhaps a reversion to the more normal or natural type of horse—is doubtless also a factor in preventing pathogenic over-stress.

The superiority of No. 2 type, which is far less marked in a "soundness" respect than No. 1 type, is obviously due to environmental factors of a biochemical sort. It cannot be due to nutritional factors such as protein, or fats, because nothing could be much more deficient in those respects than the environment to which No. 1 type animals are often subjected. Lime, and perhaps lime alone, may account for most of the superiority. The inferiority of No. 3 type in a skeletal-soundness respect is due, in my opinion, to the extreme departure from what we conceive to have been the original or normal type of horse. There has been a vast increase of bulk and power without a commensurate increase in size or quality of the skeletal tissues. It is not clear to me how anything can be done to bring about a relative immunity from skeletal disease in this type of horse in its own environment or in crosses with this type.

Conclusion.—If we could so manage things as to produce a horse standing 16 hands or more and weighing over half a ton that would remain as sound for some years in work on tarmac streets, or in carrying 15 stone of man and saddle in the hunting field two days a week, as a Dartmoor pony in its customary labour, our problem would be solved. The practical task before us, then, is to find out how to create artificially the environmental conditions that will correct the offence we have committed against nature in trying to make the horse approximate to the elephant on the one hand and the automobile on the other.

Having done that much, we have to discover how to combine and adjust those artificial environmental conditions so as to be able to reproduce in Norfolk or Midlothian the circumstances of Devon and Basutoland and it is at this point that I, for one, must beg to leave this question to better men.

DURHAM TUBERCLE-FREE HERD SCHEME

At a recent meeting of the Executive Committee of the Durham County Branch of the National Farmers' Union a discussion took place on the voluntary scheme (recently described in these columns) for building up tubercle-free herds, and it was reported that a joint committee of representatives of the North of England Veterinary Medical Association and the Durham County branch of the National Farmers' Union had been formed to operate the scheme.

It was proposed that in the first place the scheme should apply to individual farms and that it should be extended to groups or areas as circumstances permit.

In connection with the arrangements for testing it was agreed that all veterinary surgeons practising in the County of Durham should be invited to join the panel.

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The Manx Government (Agricultural Department) reports that during the year 1935, for the second year in succession, there were no cases in the Isle of Man of sheep scab, swine fever, foot-and-mouth disease, anthrax, or parasitic mange.

The Veterinary Record

May 16th, 1936.

SIR FREDERICK HOBDAY

WE publish, on another page, a communication received from the Governors of the Royal Veterinary College, London, in which we greatly regret to learn of the impending retirement of the Principal and Dean of the College.

Sir Frederick Hobday has held this position for eight years only, years which have proved to cover a very critical period in the history of the College, and during which it was fortunate that so energetic a man and so able an organiser as Sir Frederick was available to shape its destinies. It is small wonder that the Governors find themselves somewhat perturbed at the difficulty likely to be encountered in selecting a suitable successor.

Although the attainment of an age limit has made it expedient for Sir Frederick to consider giving place to a younger man, we venture to think that the relief from his multitudinous duties will do much to restore the failing health and strength which have been so lavishly expended in the service of the College.

Fortunately, and very properly, Sir Frederick will not relinquish his post until after the ceremony of opening the new College buildings, and thus will not be deprived of witnessing the fruition of his ambitious and indefatigable efforts to create a college for Great Britain, second to none and worthy of the Empire.

The fact that a large sum of money is being raised among members of the veterinary profession for the purpose of providing a portrait of Sir Frederick in oils, is eloquent testimony of the affection and esteem in which he is held by his colleagues.

We are sure we can speak for the whole profession in expressing the hope that Lady Hobday will recover from the effects of her terrible accident, to enjoy with Sir Frederick, for many years to come, a well-merited retirement.

A further scheme submitted by the Milk Marketing Board on the recommendation of the Advisory Committee on Milk Publicity, has been approved. It follows the lines of that successfully conducted during 1935. Of the total estimated cost of £60,000, the major portion will be devoted to a press and poster campaign covering the period February to November, 1936. The scheme was drawn up in consultation with the National Milk Publicity Council and its main activities will link up with the work of that Council.

Clinical Communications

By

F. T. HARVEY, F.R.C.V.S.
St. Columb

I.—IMPACTION OF THE TERMINAL PORTION OF THE ILEUM IN THE HORSE

Subject.—Mare, aged six years, of a light Shire type and in fair condition.

December 20th, 1935.—She had been working in a three-horse team on land during the day, had probably done more than her share of work and also sweated a good deal. She drank at a pond before entering the stable at 5 p.m. and, according to the youth who had been in charge, appeared normal and took her evening meal, but I have doubts about the latter.

The mare was not seen again until 9 p.m. and was then in pain and her condition gradually grew worse.

December 21st: 3 *a.m.*—Sweating, frequent small pulse, abdomen becoming distended, anxious expression, pain severe but somewhat intermittent, no peristalsis. Distended coils of small bowel palpated *per rectum* but no definite impaction could be located. 11 *a.m.*—The case goes down hill. Rectal examination induces severe straining. The distended coils seem completely to fill the cavity, with resulting high intra-abdominal pressure. The percussion note was very dull. No peristalsis.

9 *p.m.*—Less pain, cold sweats and feeble, thready pulse. Abdominal distension somewhat increased, percussion note dull, no peristalsis or attempts at vomition. Death at 11 p.m.

Post-mortem.—As a result of the intra-abdominal pressure the knackerman opened the small bowel immediately the knife severed the parietes and gallons of fluid escaped, flooding the place. Exposing the viscera, it was seen that much fluid yet remained in the small gut and also that the stomach was greatly distended with fluid. The large bowel was practically dry throughout. The caecum was empty and collapsed, while the large colon contained a quantity of dry faecal matter along its course, as also did the floating portion, but there was no obstruction in the nature of an impaction or any abnormality affecting the large intestine. With the small bowel and stomach cleared of fluid one began to wonder what could have started the trouble. The ileum, close to the valve, was found to be impacted for about six inches, completely preventing the passage of fluid into the caecum. Such an impaction might be easily missed—as has been perhaps the case on some previous occasions when one ha[illegible]

unable to explain the presence of an excessive quantity of fluid in the small bowel. I have, however, never seen as much as in this case, for it seemed as if the bowel and stomach could hold no more. It must have involved a heavy pull on the great mesentery, with resulting intense pain.

Discussion.—The case is of considerable interest. Simple impaction of the small bowel appears to be comparatively rare in the horse as in man and other animals, but a few inches of impacted bowel close to the valve may be easily missed at *post-mortem*, as noted above. Such a case may run quite an acute course like those of twists, embolic obstructions, or mechanical conditions generally. In man it is said that the stomach and duodenum give rise to much pain but that the small intestine, although the longest part of the canal, gives the least recognisable sensation of either pain or discomfort and is astonishingly free from disease of any kind, attending to its work with remarkable speed, but once the food reaches the large bowel it gives rise to endless misery.[1] If we exclude parasitism this seems generally true in comparative medicine. Normally, movement is continuous in the small bowel; waves of contraction preceded by waves of dilatation follow each other in rapid succession and if these movements become arrested from any cause such as an impaction, disaster quickly follows. The response to a simple obstruction in a bowel will vary as to whether it is in front of or behind the ileo-caecal valve. This difference is very pronounced in the horse. Animals with ileal obstruction which do not vomit die earlier, as a rule, than those in which vomition is natural, since the latter may get rid of much fluid and toxic material in this way.

Whence came all the fluid found within the intestine and stomach in the above case? A portion may have been swallowed and held up at 5 p.m., but secretion from the upper reaches of the mucosa and associated glands would probably be the main source. In health very large amounts of fluid pass into the gut in this way and become reabsorbed, but in the presence of a block it accumulates unless severe antiperistalsis and vomition relieve the pressure. In either case there is a great loss of body-fluid to the disadvantage of the patient. Antiperistalsis does seem to occur in the horse with such obstructions, and a case is recorded by me in which both ends of the small intestine were impacted (*Veterinary Record*, November 27th, 1920).

"The serious results of a distended small bowel, either with fluid or gas, have a bad effect on the portal circulation. Not only is the action of the intestine as the auxiliary heart of the portal circulation lost but there is a bleeding into the splanchnic vessels. The function of the liver is thus depressed at the same time as it is being flooded with any toxins produced in the intestine. While peristalsis is at a standstill fluid excretion is greater than absorption. The most important changes in the body-fluids in these conditions are a chloride deficiency in the blood and a dehydration of the body tissues."—*Lancet*, November 10th, 1934, p. 1056.

According to the observation of Mr. R. Hudson (*Veterinary Journal*, February, 1936), ileal obstruction in the horse would seem to be more frequent now than formerly, but here again it has perhaps been overlooked in the past. His conclusions are, I think, generally sound. These large accumulations of fluid in the small bowel of the horse are not alluded to in either Wallis Hoare's "System," or in Hutyra and Marek, nor in any work I have consulted.

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II.—SWEAT, SALT, WATER, AND COLIC

Going back to the early 'eighties of the last century, one might frequently have heard the old horseman remark concerning a case of evening colic, and perhaps a fatal one, that the horse had drunk too much cold water on returning from the day's work, after much sweating and being perhaps more or less fatigued, as well as hungry and thirsty. As the years rolled on one heard less about water as a cause of colic, but we still hear of animals, particularly those with impaction of the colon, as being "wrong in the water." Such horses certainly do refuse drink and pass very little urine until the bowels begin to act.

Caulton Reeks goes somewhat fully into the question and concludes that water plays an unimportant part in the causation of colic. The matter is of little importance to-day except in the case of farm horses, among which stable management is often woefully defective. More particularly if wintered out of doors, they are irregularly fed and watered and, having heavy coats, there is much sweating when doing hard work, with its accompanying depression. Should we not under such conditions expect cases of colic or something worse, as in the above case?

Mr. Zachary Cope, F.R.C.S., has written a book, entitled "The Acute Abdomen," in which ileus and many other acute fatal conditions in man are dealt with. The term "acute abdomen" seems equally applicable to those illnesses of the horse which, apparently beginning as simple colic, terminate fatally in from 20 to 30 hours and in which the *post-mortem* examinations offer an almost endless variety in the appearances presented, and which have defied all our efforts to afford relief to the suffering animal.

[1] Russell. *Lancet*, December, 26th, 1931.

The views of the old horsemen may, after all, have rested on a physiological basis. Sir F. Smith attributes the great reduction in the vitality and strength in horses which sweat freely at work to the loss of albumin present in the sweat, but other more important factors are probably at work. The sweat of the horse contains about ten times as much ash as it does organic material, and chlorides of soda and potash are abundantly present in all sweats. The loss of water and chlorides may be so great that the water balance of the tissues may be entirely upset. Men working in high temperatures become dehydrated and require large amounts of fluid to replace the loss by sweating. Plain water causes colic and cramp, diarrhoea, etc.; in other words, they suffer from water poisoning. It has been found that the condition can be prevented by the addition of sodium chloride to the drinking water. Other chlorides are useless for the purpose, the sodium and chlorine ions both being necessary.

In an interesting editorial in the *Lancet*, February 15th, 1936, on "Salt and the Sun," it is stated that "A man may lose by sweating alone as much salt as he normally absorbs from his diet. In India as much as seven litres of sweat a day may be lost, and firemen and miners suffer from cramp when the fluid lost by excessive sweating is replaced only by water. Excessive sweating induces changes in the internal fluids upon the delicate adjustment of which depends the life of every cell." Next to man the horse is perhaps the greatest sweater and is he likely to be an exception as regards the loss of salt in the process? Certainly no animal suffers from such violent abdominal upheavals as our equine friend. Would water containing a little salt given after hard work, or during heavy sweating, prevent some of them?

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III.—WATER POISONING IN CALVES

Some years ago I saw a batch of calves about three months old suffering from water poisoning in an acute form. Five in number, they had been indoors since birth and had had no fluid other than milk and for some days preceding the trouble the supply of the latter had been limited, but all were looking well. They were turned into a small meadow having a wide, shallow pool in one corner. As usual, they galloped for a time and then became interested in the water and no doubt began drinking and found the water pleasant. The owner returned to the meadow in about an hour and found all of them in a critical condition. Two were lying in the water almost dead and the other three were on their sides a short distance away with distended abdomens, frothing at the mouth, muscular twitchings, champing of the jaws, kicking, etc. When I arrived three were dead. The others recovered after some hours.

Rowntree has described water intoxication in man and animals, as shown by "restlessness, asthenia, polyuria, diarrhoea, salivation, nausea, retching, vomiting, muscle tremors, tonic and clonic convulsions, frothing at the mouth, helplessness, stupor and coma (truly a formidable syndrome). The convulsions are general in character, of extreme violence and in the main resemble those of strychnine poisoning. The condition can be prevented, alleviated and cured by the timely intravenous administration of hypertonic sodium chloride solution." Rowntree (*Arch. Intern. Med.*, Chicago, August, 1923). [Quoted from an old number of the *Veterinary Record*.]

ROYAL VETERINARY COLLEGE STUDENTS' SCHOLARSHIP

The announcement is made that the Board of Governors of the Royal Veterinary College has been presented by Jeyes' Sanitary Compounds Co., Ltd., to commemorate the 50th anniversary of the Company's establishment, with a scholarship of the annual value of £100 in memory of Mr. John Jeyes. It will be used to give scholars the opportunity of studying the latest methods and appliances in use for the treatment of sick animals.

More than one scholar will benefit each year. The scholarship is intended to assist the scholar to work upon some problem concerned with veterinary medicine or surgery. It may be used for his own maintenance, for meeting the expenses of his work, or for travel in order to collect materials, or to work either at home or abroad upon the problem selected. It will be open to students or former students or members of the staff of the College who have not been qualified as veterinary surgeons for more than ten years. The scholarship will be awarded by the governors of the College on the advice of the academic board.

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BREATHING MECHANISM IN BIRDS

In a recent issue of *Nature* it is pointed out that while Baer, in 1896, put forward the suggestion that owing to the importance of rigidity in the thoracic basket, during flight it remained practically unaltered, so that any respiratory movements were confined to the air sacs in the vicinity of the clavicles, Zimmer (*Zoologica*, 33, No. 5, Heft 88; 1935) as the result of a detailed anatomical and experimental investigation on the pigeon and crow, has come to different conclusions. In flight the sternum is kept relatively still, but in the downstroke the ribs move in such a manner as to raise the back, and at the same time the pectoralis muscle pulls the coracoids apart and so broadens the chest. Those movements are reversed during the upstroke. There is thus no fundamental difference between the method of breathing during flight and while at rest. The frequency, however, is increased about fourteen times. The curves further show that this synchronisation is not compulsory, and in gliding the same respiratory mechanism is brought into play but its frequency lessened. The independence of wing stroke and respiration is doubtless of importance in birds that sing during flight.

Abstracts

[Oestrus and Sterility in Mares. (Trans. title.) Götze, R. (1935.) *Deuts. tierärztl. Wschr.* **43.** 11, 161-163.]

The breeding performance of domesticated mares compares very unfavourably with that of animals in the wild state. This is due not only to disease but also to faulty management of the breeding stock, and the author deals with this question at some length.

It has been established that the first heat period after foaling is the most favourable time for conception. Service is most likely to be successful in the spring (April, May), though heat periods may recur at other times of the year. The mare must, however, be covered at the proper time during oestrus; theoretically this is on the day of ovulation, but at present there is no practical means of determining when ovulation is about to take place. Opinions differ as to the duration of oestrus in the mare. Recent observations of wild mares in South Africa have shown that during the breeding season oestrus occurs without a recognisable periodicity. In some cases it lasts for one or two days only and recurs again in a few days; in other cases it lasts for several days with long intervals between. Such variations are also seen in mares kept under domestic conditions and this has given rise to the controversy as to whether oestrus in the mare appears at three- to four-week intervals or at short intervals of seven-and-a-half to nine days. The important point, however, is that there is only a short period—one to two days—during oestrus at which service is likely to be followed by conception. Ovulation takes place towards the end of oestrus when the signs of heat are at their maximum. It has been established that some young mares in their first season may ovulate once only and that with increasing age two or three or more ovulations occur annually. The practical point to which attention is drawn is that oestrus may occur without ovulation and ovulation without oestrus. In addition to the above physiological factors, attention must be paid to the general condition of the mare and disease processes must be dealt with as they arise.

J. A. N.

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[Method of Preparing the Horse's Foot for Shoeing by Paring Down to the Sensitive Structures (La rosée). (Trans. title.) Lagaillarde. (1934.) *Bull. Acad. vét. France.* **7.** 7. 335-337.]

The opening discussion on this paper is of interest. It is stated that the internal and external edges of the foot should be symmetrical, and that the bearing surface should be circular in shape. The shoe to fit such a foot is thus symmetrical and circular, the nail-holes being coarser on the internal branch. Asymmetry of the branches causes faulty preparation of the hoof: these faults are so common that asymmetry of the hoof is regarded as being its usual form. The slope of the external wall is not the same as that of the internal wall, thus giving rise to further malformation.

The author maintains that correct preparation of the foot is of great importance. Several methods for determining whether the bearing surface is level are given. The method of preparation of the foot advocated by the author is as follows. Three holes are pared out in the sole, two at the heel and one at the toe. These holes are sufficiently deep to cause very slight haemorrhage. The results obtained are very satisfactory. The frog becomes a weight-bearing factor, instead of undergoing atrophy. Contracted heels grow out, and the feet become symmetrical in outline. Brushing no longer occurred in horses treated in this manner. After the second shoeing the cavities should not be renewed and the hoof is pared down to the depth of the original excavations. By this method affections of the foot are said to become fewer and the hoof maintains its shape.

E. C. H.

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[The Diagnosis of Hypertrophic Enteritis by the Examination of Faeces for Johne's Bacillus. (Trans. title.) Cauchemez, L., and Sergent, G., (1934.) *Bull. Acad. vét. France.* **7.** 9. 372-376.]

Johne's disease is of importance in bovines on account of its rapid development, the ineffectiveness of treatment and the extension of its geographic areas. It is economic to make an early diagnosis in order that affected cattle may be slaughtered whilst still of some value, and in addition, thereby to prevent further dissemination of the infection.

An attempt at early diagnosis has been made by examining the faeces for the presence of the Johne bacillus before the appearance of clinical symptoms. Several methods of concentrating the bacilli in faeces were investigated without success, including the methods of Lebailly and of Cernaiarn, involving centrifuging faeces with chloroform. Venet and Moreau's technique (as used for the detection of tubercle bacilli) has also been used with unsuccessful results in the examination of faeces from eight cows, all of which proved to be advanced cases of Johne's disease. In only one case could bacilli be detected in the faeces, and in this case direct examination of the droppings revealed them equally well. Slightly better, but still unsatisfactory results were obtained

from a modification of the method of Larson, Beach and Wisnicky.

The authors have thus found it impossible to concentrate the Johne bacilli present in the faeces sufficiently to enable them to be detected with certainty. A suggestion is made that saline purgatives or pilocarpine might evoke a heavy discharge of bacilli, and thus render faecal examination a possible means of diagnosis. The johnin test at present remains the only method of diagnosing early cases.

W. L. S.

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[Streptococcal Infection in the Pig. (Trans. title.) Lesbouyries and Berthelon. (1935.) *Rec. Méd. vét.* (Alfort.) **3.** 12. 920-935.]

A disease of pigs considered to be specific and thought to be caused by a streptococcus is described.

The acute form is seen almost exclusively in young pigs. Symptoms are those of fever and the skin is cyanotic. *Post-mortem* changes include serous infiltration of the subcutis, serofibrinous inflammatory exudate in the body cavities, congestion and haemorrhage of various organs. The subacute form consists of inflammatory changes generally localised in the joints, respiratory system, eyes, mammary glands, genital system or the vascular system. Where endometritis occurs abortion takes place. The subacute type usually develops into the chronic form.

The prognosis is invariably grave, for the mortality is as high as 50 per cent. in acute epidemics, whilst the milder outbreaks result in the establishment of carriers.

Diagnosis depends partly upon the exclusion of other possible causes and in any case can only be tentative in the absence of laboratory confirmation. Such confirmation consists of the isolation of the causal streptococcus. This may be effected particularly from joints or from vegetations on the heart valves. Such vegetations, which are often seen, resemble those of swine erysipelas, so that care must be taken to distinguish these two conditions. No adequate tests are given for recognising the streptococcus, which is said to resemble other pathogenic members of the genus.

Little is known of the origin of infection, or of the prevention or cure of the condition. Bad hygiene predisposes to the disease, so that prophylaxis must be directed entirely towards improvement of the farming conditions.

E. J. P.

Exchequer contributions, up to April 15th, towards the expenses of the Milk Marketing Board for England and Wales in carrying out approved arrangements for increasing the demand for milk, amount to £605,007. Of this amount, £573,132 was paid in respect of the supply of milk to school children at reduced rates, £750 towards the cost of the supplementary Nutrition Survey, and £31,125 in respect of general publicity.

Report

BIRMINGHAM VETERINARY DEPARTMENT

ANNUAL REPORT OF THE CHIEF VETERINARY OFFICER

In the annual report of the Chief Veterinary Officer for Birmingham it is seen that the Veterinary Department deals with the inspection of meat and other foods for the whole of the city area, the work under the Diseases of Animals Acts, the inspection of cows and cowsheds under the Milk and Dairies Orders, the inspection of cows for Grade "A" licences, and also controls the Corporation stud. In connection with the Veterinary Department there is a Chief Veterinary Officer, with seven assistant veterinary inspectors and eight certified meat inspectors.

It will be seen from the report that in addition to the public slaughterhalls there are 90 private slaughterhouses in the city area. The total number of animals slaughtered in the city area is as follows:—

Beasts.	Calves.	Sheep and Lambs.	Pigs.	Total.
55,036	100,176	316,550	381,625	853,387

Under the Milk (Special Designations) Order of 1923 there are 17 producers holding licences to produce Grade "A" milk and one to produce "Certified" milk.

For the examination of milk for the presence of tubercle bacilli, 1,668 bulk samples were taken, of which 134, or 8 per cent., were found infected.

In the Corporation stud there are 389 horses. The report shows the cost of horses, provender, bedding, shoeing, harness and other incidentals connected with the Stable Department, the average percentage of horses off work during the year, through sickness and other causes, being 2·1 per cent.

INTERNATIONAL CONFERENCE ON FEVER THERAPY

The first international conference on fever therapy is to be held at Columbia University, New York City, U.S.A., from September 29th to October 3rd, 1936, under the chairmanship of Baron Henri de Rothschild, of Paris. In addition to the French Committee, National European Committees are being formed under the direction of Professors Maranon of Spain, Frugoni of Italy, Volhardt of Germany, Wagner-Jauregg, and Eppinger of Austria, Michaux of Switzerland, Bessemans of Belgium, and Danielopolu of Roumania.

Abstracts of the papers to be read are to be published in the volume of the transactions in English, German and French.

Information regarding this conference may be secured from the General Secretary, Dr. William Bierman, 471, Park Avenue, New York City, U.S.A.

N.V.M.A. Divisional Reports

EASTERN COUNTIES V.M.A.*

SIXTIETH ANNUAL MEETING AT NORWICH

The sixtieth annual general meeting of the above Division was held at the Royal Hotel, Norwich, on February 21st, 1936.

The President, Major W. Wortley, occupied the chair, and there were also present Messrs. M. Bray, T. E. Barcham, J. L. Buckingham, W. H. Dennett, Major T. G. Heatley, Messrs. W. F. Howes, D. S. Jack, W. F. Loveless, H. V. Low, C. C. Nesling, Captains N. F. Pollock, J. E. Porrett and E. Brayley Reynolds, Messrs. H. S. Standley, senr., H. C. Swann, J. F. Thurston, and the Hon. Secretary (Mr. H. P. Standley, junr.). Professor J. McCunn, of the Royal Veterinary College, London, was present as a visitor.

Death of His Majesty King George V.—Before the commencement of the business of the meeting, the President made reference to the loss the nation had sustained by the death of His Majesty King George V, and at his suggestion the members stood for a short time in silence to the memory of His late Majesty.

The minutes of the autumn meeting, as published in the *Veterinary Record*, were taken as read, and signed.

Correspondence.—(1) From the following, regretting their inability to attend: Messrs. H. Buckingham, A. Burgon, H. Downe, Major F. L. Gooch, Sir F. Hobday, Mr. H. H. Leach, Mr. G. T. Matthews, Captain W. Shipley, Messrs. W. Turtill and P. J. Welch.

The Hon. Secretary mentioned that Mr. P. J. Welch had had a severe illness, and it was agreed to send him a letter wishing him a speedy recovery.

(2) From Mr. Tutt, this being an Election Address issued by him as a candidate for election to Council, R.C.V.S. The President remarked that he knew Mr. Tutt personally and expressed the hope that he would be given support from this Division.

(3) From the Central Veterinary Society, embodying two resolutions with reference to the free treatment of the sick animals of the poor. It was decided to acknowledge receipt of the letter and to postpone further action until notification concerning the matter was received from the National Veterinary Medical Association.

(4) From Mr. N. F. Pollock, moving the following resolution: "That we request the N.V.M.A. to take steps with the object of securing Government control of the use of biological products, and seek to have their supply limited to those qualified to use them." "The traffic in vaccines and sera" (said Mr. Pollock) "is attaining a volume that will injure us increasingly. Already it has reached the stage where we are being robbed of work legitimately ours, as far as any work can be so called. We cannot claim a monopoly in animal medicine, any more than medical men can in human, but there are limits to lay practice, as the law recognises in the Dangerous Drugs Act. Seeing that control of agents like morphine is legislated for, surely it is logical that live vaccines, which could be used for maliciously spreading disease, should be similarly guarded. Again, a good deal of time and expense are involved in the training of veterinarians. As it cannot be held that the laity are so well qualified to use bacterial agents as men whose life is devoted to their study, is it not logical that their use should be reserved to the skilled man who has proved his discrimination in their employment? If there was a shortage of veterinary surgeons, there would be some excuse for extending the supply of bacterial agents to members of the public. In other countries that need has been recognised in the past, but the Government restricted their use to licensed inoculators. To my personal knowledge, laymen have been supplied with abortion live vaccine and distemper serum, the cartons of which, incidentally, bore the printed legend 'For use by veterinary surgeons only'; while a certain firm supplied at least one of my clients with live erysipelas serum and vaccine. I certainly think that action should be taken by the profession to make the firms adhere to their declaration that in the case of certain veterinary products, veterinary surgeons only are supplied. The only means by which we can have control of biological agents instituted is by putting up a convincing case for Government action, and having the said agents either scheduled under an existing Act or regulated by special legislation. If we do not succeed in having a check imposed on the supply of biological products in the near future, we may later on see the inoculation of calves against tuberculosis in the hands of laymen, their experience in the use of other vaccines being used as a lever in obtaining permission to immunise their own animals."

Mr. J. L. Buckingham seconded the motion, which was adopted.

(5) From Mr. B. Claxton, stating that as he was no longer stationed in the eastern counties, he wished to tender his resignation. This was accepted with regret.

(6) From the Royal Sanitary Institute, inviting the Division to send a delegate to their Health Congress at Southport. It was decided that the President or his nominee be asked to attend.

*Received for publication April 3rd, 1936.

(7) From the N.V.M.A., regarding the question of the repayment of expenses incurred by Branch and Divisional representatives in attending the Council meetings. The PRESIDENT said there was much to be said in favour of the contents of the letter. After all, the delegates went to a lot of trouble for the benefit of all the members and it would be only just to reimburse them for the expenses incurred.

Mr. DENNETT expressed a like opinion.

The PRESIDENT proposed and Mr. C. C. NESLING seconded, "That in future the travelling expenses of the Society's delegates be met from the Society's funds."

Mr. E. BRAYLEY REYNOLDS observed that he was one of the Association's delegates, and being elected on the Editorial Committee, this necessitated his going to London practically every fortnight, so that if his expenses were to be paid it would be a considerable drain on the funds. Mr. H. P. STANDLEY, sen., said he also was one of the Association's representatives and he was prepared to bear the expense of attending the meetings. He was very sorry to know that some of their members were not members of the N.V.M.A., after such matters as Mr. Pollock had pointed out. He thought everyone should join without delay. If they saw the work done by the "National" and its committees, they would be amazed. If it was not for the "National" and its work, they would be in a very unsatisfactory position. (Hear, hear.)

The PRESIDENT thought that the Division should show its appreciation of the services of its delegates. The repayment of travelling expenses would by no means reimburse them for what it cost them to attend meetings of Council, N.V.M.A.

Mr. REYNOLDS asked if there was any information as to how other Associations were acting in the matter. The HON. SECRETARY replied that he had no definite information on the point.

The proposition was carried.

(8) From the N.V.M.A., with reference to the resolution submitted by the Division with relation to insurance companies accepting certificates from other than qualified veterinary surgeons in connection with livestock.

Finance.—The Balance Sheet for 1935 was presented and adopted.

It was decided to send an extra donation of £5 to the Victoria Veterinary Benevolent Fund and also a donation of £5 to the Royal Agricultural Benevolent Fund.

ELECTION OF OFFICERS

President.—Mr. E. Brayley Reynolds.

Vice-Presidents.—Captain W. Waters, Mr. P. J. Welch, and Major W. Wortley.

Committee.—Messrs. P. R. Turner, W. Shipley, W. H. Dennett, W. J. Browning, H. P. Standley, sen., T. G. Heatley, W. A. Wood, and J. F. Thurston.

Auditors.—Messrs. H. Buckingham, T. E. Barcham.

Hon. Secretary.—H. P. Standley, jun.

Representatives to N.V.M.A. Council.—Messrs. E. Brayley Reynolds, and H. P. Standley, sen.

Induction of President.—Mr. E. Brayley Reynolds then took the Chair, amidst applause, and thanked the members for the honour they had conferred upon him in electing him President. He was a busy man, but would be pleased to do all he could for the benefit of the Association during his year of office.

N.V.M.A. Activities.—A summary of the year's work of the N.V.M.A. was received. In preference to the reading of this document, it was decided to circulate it to all the members, to bring home the vast importance of the N.V.M.A., in the hope that those who were not members would join without delay.

Next Meeting: Appointment of Diamond Jubilee Committee.—When consideration was given to the place and date of the next meeting, the PRESIDENT reminded the members that that Annual Meeting was the Association's sixtieth, so that they had reached their diamond jubilee year. He thought that this must be one of the oldest Associations of its kind in the country, and that an effort should be made to celebrate it. Mr. STANDLEY, sen., agreed with the idea and suggested that a small committee should be appointed to consider the matter.

On the proposal of the PRESIDENT, seconded by Mr. H. P. Standley, sen., it was then agreed that a diamond jubilee celebration should take place, and a committee consisting of the President, Messrs. W. H. Dennett, W. Shipley, H. P. Standley, sen., and the Hon. Secretary, was appointed to settle details.

It was also decided that the next meeting should be held at either Great Yarmouth or Newmarket, subject to the decision of the Jubilee Committee.

Paper.—The meeting next heard, with much interest and appreciation, a paper by Professor J. MCCUNN on "Some Adverse Experiences in Veterinary Practice," which was followed by a useful discussion. [Professor McCunn's paper is reproduced, together with a report of the discussion, at the commencement of this issue. —*Editor.*]

A very cordial vote of thanks to Professor McCunn was passed on the proposal of the PRESIDENT, seconded by Major WORTLEY. Before concluding the meeting, the PRESIDENT said it gave him great pleasure to propose a vote of thanks to Major Wortley for so efficiently carrying out his duties as President during the past year. This was carried with applause and Major Wortley made a suitable reply.

H. P. STANDLEY, JUN., *Hon. Secretary.*

LINCOLNSHIRE AND DISTRICT V.M.A.*

ANNUAL MEETING AT GRANTHAM

The Annual General Meeting of the Lincolnshire and District Veterinary Medical Association was held at the George Hotel, Grantham, on Friday, February 21st, 1936.

The President, Mr. W. W. Lang, presided, supported by Mr. F. Leeds Gooch (Hon. Secretary and Treasurer). The following members were present: Messrs. F. W. Leeds Gooch, K. J. S. Dowland, W. Gibson, G. Eaton, J. H. Poles, and Major A. N. Foster; Mr. R. Hudson (Honorary Member), and Messrs M. R. MacFarlane and R. Sillars (visitors).

On the proposition of Mr. Dowland, seconded by Mr. Poles, the minutes were taken as read.

Correspondence.—(1) From Sir Frederick Hobday, Professor Macqueen, Mr. C. W. Townsend, Mr. Standley, Mr. Porter-Smith, and Mr. G. Lockwood, apologising for absence.

(2) From the Royal Sanitary Institute, stating that the annual Health Conference and Exhibition would be held from July 6th to 11th, and asking that a delegate should be sent.

The Secretary expressed the hope that the Association would be represented at this Congress. The Society, he said, was becoming more and more interested in veterinary science, and for the past two years the Veterinary Public Health section had been the best attended of the whole Congress.

On the proposition of Mr. Poles, seconded by Mr. Eaton, the Secretary was again chosen as delegate.

Finance.—Presenting his report, as Hon. Treasurer, Mr. Gooch said that at the last meeting, at Lincoln, the President and himself had been asked to send a circular letter to every member of the Association who was in arrears with his subscription. Up to the end of November, 1935, the response had been good. In December he again sent a circular letter. In February of this year he sent out a personal letter to all who remained. By these means he had succeeded in collecting between October of last year and the present, £23 2s. 6d., of the £35 outstanding.

Continuing, the Treasurer stated that the Association had now 40 members, of whom 32 were up-to-date with their subscription payments. The balance in hand at the bank was £9 2s. 2d. Mr. Gooch added that it was the first time they had had a balance sheet for several years.

Obituary.—The Hon. Secretary reported that since the last meeting the Association had lost one of its members by death in the person of Mr. Lionel Leach. In the name of the Association he had sent a letter of condolence and sympathy to the bereaved family. At the President's request all present stood for a moment in silence as a tribute of respect and regret.

Election of Officers

The election of officers followed.

President.—The retiring President proposed from the Chair that Mr. Swaby, of Gainsborough, be elected President. This was seconded by the Hon. Secretary and carried unanimously.

Vice-Presidents.—Messrs. G. Eaton, W. W. Lang, and K. J. S. Dowland.

Hon. Secretary.—The Hon. Secretary suggested that the new secretary should be elected to take office after the Peterborough meeting in June, as he did not consider it fair to expect anyone else to take the position over until matters had been straightened.

The President proposed from the Chair that Mr. W. Gibson, of Grantham, be elected. This was seconded by Mr. Dowland and carried unanimously.

Election to Membership.—On the proposition of the President, seconded by the Secretary, Mr. E. G. Conisbee, of Kimbolton, was elected a member.

Paper.—Major T. Dalling, M.R.C.V.S., then read his paper on "Research into some of the Diseases of Animals."

Considerable discussion followed the reading of the paper and the President, in returning thanks to Major Dalling for his very able lecture, expressed appreciation of the fact that so busy a man had managed to find time to come and address them. The vote of thanks was seconded by the Hon. Secretary and carried with acclamation. [We reproduce Major Dalling's paper, together with a report of the discussion, earlier in this issue.—*Editor.*]

The Retiring President Thanked.—The Hon. Secretary proposed a hearty vote of thanks to the President for filling the Chair that afternoon and for all the work he had done during the year.

Mr. Poles, seconding, said that they all knew what a keen man the President was. He thought that all he did for the profession was a labour of love.

Mr. Eaton expressed the view that the termination of the President's year of office should be celebrated in some fitting manner, and he proposed that he should be made an honorary member of the Association.

Major Foster seconded, and the proposal was carried unanimously.

Responding, the President said he appreciated very deeply indeed the honour that had been done him. "I do love my work," added Mr. Lang, "and my work is also my hobby." It had been his ambition when he entered the profession to leave it better than he had found it, and he believed that in some degree he had

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succeeded in his ambition. "I have always done my best to help others so far as I can," he concluded, "and I have received considerable pleasure from their appreciation."

Major Dalling also responded, observing that it had been a very great pleasure to him to visit the Division, for he always liked to meet practitioners—he had not forgotten that he had once been one himself. He would be pleased to pay another visit at some future date.

Nomination.—The President nominated Mr. M. R. MacFarlane for election as a member.

Morbid Specimens.—A very interesting specimen was shown by Mr. Hudson. This was from a case of parasitic aneurism of the small colon of a six months old foal, which had been well up to weaning, when it had been treated for worms. The foal carried on for about a month although it was dull and listless, and he continued to treat it for worms without seeing any sign of any. Death then took place, internal hemorrhage being the cause. The *post-mortem* revealed the existence, at intervals of five or six inches along the colon, of what looked like glands, but which turned out to be embolisms containing worms.

The President also brought a specimen in the form of a thrombus due to verminal infection.

At the close of the meeting the Hon. Secretary announced that the retiring President (Mr. Lang) had promised a paper for the next meeting on the subject of verminous thrombus and its cure—the title to be given later.

F. Leeds Gooch, *Hon. Secretary.*

GENERAL OBITUARY

Professor Karl Pearson

In the sudden death, in his eightieth year, of Emeritus Professor Karl Pearson, which has been recorded in the scientific press throughout the world, there has passed on one of the most forceful personalities of our time. Before his appointment to the Chair of Applied Mathematics in the University College, London, Professor Pearson lectured and wrote on a wide range of subjects, and in the early 'nineties he became an enthusiast for the application of mathematical-statistical methods to the study of biological problems, especially the problems of inheritance. In collaboration with his colleague, the late W. F. R. Weldon, and with the approval and support of Francis Galton, he founded the journal *Biometrika,* and for the rest of his life biometry and eugenics were his primary interests. As the *British Medical Journal* states in a recent issue, more, and more accurate, use of statistical methods has been made by medical investigators, and the great majority of the methods were invented or improved by Karl Pearson. The same journal describes him as "undoubtedly one of the most inspiring teachers of his time."

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

May 20th.—Meeting of the Society of Veterinary Practitioners at Birmingham, 2.45 p.m.

May 21st.—Voting Papers issued, R.C.V.S. Council Election.

May 25th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, 4 p.m.

May 28th.—R.C.V.S. Council Election Voting Papers due.

May 28th.—General Meeting of the Lancashire Division, N.V.M.A., at Manchester, 2.30 p.m.

June 3rd.—N.V.M.A. Committee Meetings at the Royal (Dick) Veterinary College, Edinburgh.

June 4th.—N.V.M.A. Council and Committee Meetings, at the Royal (Dick) Veterinary College, Edinburgh.

June 4th.—Visit of the Central Veterinary Society to the Museum of the Wellcome Research Institute, 183-193, Euston Road, N.W. Business meeting at the same address.

June 4th.—R.C.V.S. Annual Meeting and Luncheon in Edinburgh.

June 11th.—D.V.S.M. Examination begins.

June 12th.—R.A.V.C. Annual Dinner, Grosvenor House, W.1., at 8 p.m.

June 24th.—R.C.V.S. Committee Meetings.
June 25th.—R.C.V.S. Committee Meetings.
June 26th.—R.C.V.S. Committee and Council Meetings.
June 29th.—R.C.V.S. Membership Examinations begin.
Sept. 14th-18th.—N.V.M.A. Annual Congress, Scarborough.

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ROYAL COLLEGE OF VETERINARY SURGEONS

His Majesty's Patronage

We are privileged to inform our readers that the President of the Royal College has received an intimation from Buckingham Palace that His Majesty King Edward VIII has been graciously pleased to grant his patronage to the Royal College of Veterinary Surgeons. It will be recalled that in the year 1923 His Majesty, when Heir to the Throne, evidenced his interest in the veterinary profession and its work by

acceptance of an honorary associateship, and in this further mark of our ruler's goodwill towards us, every member will feel the utmost gratification.

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Candidates Nominated for Election to Council

The following is a complete list of candidates who have been nominated for election to Council, R.C.V.S.

Voting papers will be issued on May 21st, and must be returned by May 28th. The declaration of election will be made at the Annual General Meeting in Edinburgh on June 4th.

Nominee	*Proposers*
Buxton, Professor J. B. (Cambridge)	Sir J. M'Fadyean J. W. McIntosh
Locke, G. H. ... ... (Manchester)	J. W. Brittlebank William Nairn
M'Fadyean, Sir J. ... (Leatherhead)	J. W. Brittlebank O. Charnock Bradley
Mitchell, T. M. ... ... (Sunderland)	J. R. Rider T. Wilkinson
Share-Jones, Professor J. (Liverpool)	J. W. McIntosh Sir J. M'Fadyean
Willett, John ... ... (London)	J. B. Buxton J. W. McIntosh
Wooldridge, Prof. G. H. (London)	Sir J. M'Fadyean J. W. McIntosh
Tutt, J. F. D. ... ... (Winchester)	J. W. Brittlebank J. C. Coleman
Webster, G. C. ... ... (Lancaster)	R. C. Locke A. L. F. Mullen
Hare, Tom ... ... (London)	Henry Gray P. J. Cautley
Watson, A. H. ... ... (Bradford)	H. G. Bowes E. F. McCleery

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Annual Luncheon

In connection with the Annual Meeting of the Royal College of Veterinary Surgeons, which as announced above, this year is to be held in Edinburgh on June 4th, there will be an official luncheon at the North British Station Hotel. It is hoped that the Lord Provost of Edinburgh will be able to attend, in addition to a number of other distinguished guests representing the most important Scottish official and academic institutions.

The arrangements for the luncheon are in the hands of a small committee, with Mr. A. C. Doull, Secretary of the Edinburgh College, as Honorary Secretary. Application for tickets should be made to Mr. Doull; their cost is 6s. 6d., exclusive of wines and cigars. We hope that there will be a large and representative gathering of veterinary surgeons to do honour to the President on this occasion.

ROYAL VETERINARY COLLEGE

Sir Frederick Hobday's Impending Retirement

We have received the following announcement, officially approved for publication by the Board of Governors of the Royal Veterinary College:—

The impending retirement of Professor Sir Frederick Hobday, through reaching the age limit, is causing the Governors to be confronted with the all-important task of selecting a successor to Sir Frederick at a very critical time in the history of the veterinary profession.

The new Principal will have to take over the new college buildings, which will be completed during the next year, and be responsible for their equipment and staffing. On his powers of organisation and of administration will turn to a very large extent the efficiency of the veterinary profession in future years.

The Governors are seeking a new Charter from the Privy Council, under which will be formed a new Court of Governors and a new Council. This new governing body will have no easy initial task in making the appointment of a Principal. In order that the change over may be gradual Sir Frederick will remain, it is understood, in office until the opening of the new buildings, but will go on leave as from October 1st next in order that his successor may be responsible for the organisation of the buildings which will be under his control in the future.

The Governors have felt that Sir Frederick Hobday's official connection with the College should not be terminated until the new buildings, for the erection of which he has worked so hard and successfully, were completed and formally opened. Large sums are still needed for their completion, equipment, and endowment.

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In connection with the reference to the new buildings made in the above announcement, it may be stated that work on the main block, which will contain the administrative quarters, laboratories, lecture rooms, and students' quarters, is now well in hand. It will occupy the whole area of the old quadrangle giving on to Great College Street. There still remains a large area to be cleared of houses, preparatory to the building of the main stables, the operation block for large animals, etc., but apart from this the hospital buildings are now complete.

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COUNTY VETERINARY INSPECTION: QUESTION IN THE HOUSE

In the House of Commons, recently, Mr. Savery asked the Minister of Health how many whole-time veterinary surgeons have been appointed by county and county borough councils during the last twelve months; and whether he is willing to recommend that such councils

should, as far as possible, utilise the services of veterinary surgeons who are practising in their districts?

Sir Kingsley Wood's reply was as follows: "I regret that I am unable to give the information asked for in the first part of the question. As regards the second part, my hon. Friend is no doubt aware that the Cattle Diseases Committee of the Economic Advisory Council recommended that local authorities should appoint whole-time veterinary officers wherever this is practicable, and I do not think therefore I should be justified in taking the course suggested."

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PERSONAL

Presentation to Professor J. J. O'Connor

Professor J. J. O'Connor, M.R.C.V.S., Principal of the Veterinary College of Ireland, was entertained to dinner at the Gresham Hotel, Dublin, on May 4th, and was presented, on behalf of the members of the veterinary profession, with a silver tea and coffee service. The presentation was in recognition of Professor O'Connor's services to the Veterinary Medical Association of Ireland and to the profession, and also in recognition of his appointment as Principal of the Veterinary College.

Mrs. O'Connor was given a diamond ring.

The chair was occupied by Mr. H. O'Leary, M.R.C.V.S., President of the Veterinary Medical Association of Ireland, who made the presentations.

Proposing the toast of Professor O'Connor, Mr. L. M. Magee, Dunboyne, said that Professor O'Connor had been elected first President of the Veterinary Council of Ireland and that last year he had been re-elected for another term of office. As Secretary of the Veterinary Medical Association of Ireland, Professor O'Connor had rendered great service, not only to the Association, but to the entire veterinary profession in Ireland.

In the course of his acknowledgment, Professor O'Connor expressed his warmest thanks to the subscribers towards the handsome gifts made to Mrs. O'Connor and himself. Continuing, the Principal observed that in order that the livestock industry might flourish it was essential that the health of livestock should be preserved. An enormous amount of money could be saved if certain animal diseases could be prevented, and the elimination of those diseases would benefit not only the livestock industry, but also the health of the people. From the public health point of view, it was essential that use of the members of the veterinary profession should be made in preventing disease. It was essential that more advantage should be taken of the power of the members of the veterinary profession to stem the progress of tuberculosis. Much could be done by having all cows supplying milk to the public tuberculin-tested.

He hoped that the Government would act on the advice of the Horse-Breeding Commission and provide adequate funds for research into the horse. He suggested that the veterinary profession should get a share of the funds provided by the Hospitals' Sweepstakes.

Mr. P. F. Dolan, M.R.C.V.S., D.V.S.M., chief veterinary officer, Dublin Corporation, proposed the toast of the "Veterinary Medical Association." The progress of their profession depended, he said, upon research work, of which not nearly enough was being carried on in that country. It was in the interest of the State that research work should be carried out.

In the course of his reply, the Chairman said that it was regrettable that only about two-thirds of the 300 odd members of the veterinary profession in the Free State were members of the Association, and that of the members only about half the number took an active interest in the work of the Association.

Amongst those present were: Miss O'Connor, Messrs. D. J. O'Connor, J. D. O'Connor, J. H. Norris, Mrs. P. F. Dolan, Professor Kearney, Professor and Mrs. Browne, Professor Dunne, Mr. and Mrs. S. O'Donovan, Mr. and Mrs. J. Murphy, Mr. and Mrs. J. M. Norris, Mr. A. F. O'Dea, Mr. A. A. Donnelly, Mr. and Mrs. L. M. Magee, Messrs. R. H. Lambert, N. H. Lambert, J. D. Whitty, M. J. McClancy, F. O'Leary, D. Reeves, J. Dundon, P. Harnett, P. Rogan and Mr. and Mrs. F. J. Daly.

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Retirement of Dr. C. J. Reakes

Dr. C. J. Reakes, C.B.E., D.V.Sc., (Melb.), M.R.C.V.S., Director-General of the Department of Agriculture of New Zealand, retired from the service on April 30th, 1936.

Dr. Reakes received his professional training at the Royal Veterinary College, London, graduating on May 19th, 1892. After experience in private practice he went to New Zealand in 1897 and was at once appointed to the Department of Agriculture of that country under Dr. J. A. Gilruth. At the time only three other veterinarians, Messrs. J. A. Gilruth, Park and Charlton, were in the Government service, while the total permanent staff of the department numbered 106. In due course the position of chief veterinarian having been created, and ably filled by Dr. Gilruth, Dr. Reakes was appointed assistant chief veterinarian in 1901. In those days the headquarters of the veterinary staff were at the Wallaceville Veterinary Laboratory, which was established in 1905, as a much-needed centre for the carrying out of veterinary research work, which had previously been done under great difficulties in a small building in Wellington. In January, 1909, Dr. Gilruth having left to take up an appointment in Australia, Dr. Reakes succeeded him as chief veterinarian, and as director of veterinary services in the Defence Department.

In 1910 Dr. Reakes was granted the degree of Doctor of Veterinary Science by the University of Melbourne. A re-organisation of the Department of Agriculture was carried out in 1909 by its head, Mr. F. S. Pope, and the livestock division, among others, was created, Dr. Reakes being made director of the division, a position which he held until 1918 when he became director-general of the department.

On the outbreak of war in 1914, in his capacity as director of veterinary services, he devoted his time for a period to work with the Defence Department, controlling the purchase of remounts for the New Zealand troops, and supervising fodder supplies, transport arrangements from the standpoint of animal hygiene, the care of horses during training in camp, etc. Later he was associated with the requisitions of meat, wool, dairy-produce and other supplies carried out by arrangement with the British Government, and had to undertake a considerable share of the responsibility in these connections. In 1919 he was created C.B.E. (Military Division).

During his service with the Government, Dr. Reakes has twice visited Great Britain officially—the first time in 1908 when he made inquiry into the frozen meat position there and gained information which was of great assistance in connection with meat inspection in New Zealand, and also in connection with the export meat business. The second visit was in 1927, when he attended the agricultural research conference in London, called by the British Government, where the foundations were laid for the system of Empire co-ordination of research, establishment of which is now in progress.

On his retirement a tribute was paid to Dr. Reakes, not only by the members of the Government for the manner in which he had at all times devoted himself to the service of the State, but also by those who served under Dr. Reakes in the Department.

"Those who were closely connected with Dr. Reakes," writes a colleague, "knew him to be a man of high integrity, who let no adverse criticism influence action which he considered right. Dr. Reakes has always associated himself where possible with investigation into animal diseases and although he had little time to devote to active research in the past 18 years of his administration, yet he was always a welcome visitor to the Laboratory where he first commenced work and which retained his interest. His life-long experience of disease problems from the preventive point of view made his criticism valuable.

"Although Dr. Reakes has severed his connection with the Department, he will still reside in New Zealand and in spite of being a keen golfer will no doubt retain an active interest in the agricultural affairs of the country. The successor to Dr. Reakes has not yet been announced."

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Appointments.—Mr. R. T. Sheppard, M.R.C.V.S., has been appointed Assistant Veterinary Officer to the Bedfordshire County Council.

Mr. Jas. McWilliam Ware, M.R.C.V.S., B.Sc. (Agric.) (Aber.), of Dalcross, Inverness-shire, has been appointed as Veterinary Officer, Gold Coast.

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French Veterinary Academy Honours Professor Buxton.—We learn, with much pleasure, that at a meeting of the Académie Vétérinaire de France held on May 7th, Professor James Basil Buxton, M.A., F.R.C.V.S., D.V.H., Director of the Institute of Animal Pathology, and Professor of Animal Pathology, University of Cambridge, was elected a Foreign Corresponding Member of the Academy.

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On Leave.—Dr. J. H. Mason, D.Sc., F.R.C.V.S., F.R.S.E., is on leave in this country from Onderstepoort, S. Africa.

Mr. E. F. Peck, Veterinary and Agricultural Officer, British Somaliland, has arrived in this country on leave.

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THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY

It has always been a matter of serious regret and concern to our charitable organisations that the calls upon their benevolence should so far exceed their ability to meet them as to create a permanently harassing position which constitutes something of a reproach to the profession. Neither the Council of the "Victoria" nor that of the "National" Benevolent Funds, however, can be accused of apathy in this matter, and the latest effort of the latter to cope with the increasingly serious position created by reduced income from investments is the issue of the following appeal, a copy of which has been sent to each member, over the signature of the Hon. Secretary of the National Veterinary Benevolent and Mutual Defence Society, Mr. R. C. Locke:—

"A member of the Society has promised to contribute £50 to the Benevolent Fund provided that a similar amount is raised in new donations or fifty new members enrolled by December 31st next.

"The Council, naturally, are very anxious to take advantage of this generous offer and they are making an appeal to each member to assist this worthy object.

"Various suggestions have been made as to the manner in which members could help, such as:—

The introduction of new members;

The organisation of efforts with a view to raising money for the Benevolent Fund;

The collection of donations from Societies or persons outside the Veterinary Profession but interested directly or indirectly with its activities.

"I can assure you that any assistance you are able to render will be very much appreciated."

As has been frequently stressed in these columns, membership of this Society has the dual value of a valuable form of insurance against legal misfortune and of affording a medium for the giving of help in directions which should appeal most to the sympathies of members of the profession. We trust, therefore, that not only will the appeal of the Council meet with a ready response, but that our readers will bear in mind the fact that, should their interest not extend to a desire for membership—though this is much to be hoped for—all contributions will be most gratefully accepted and acknowledged by Mr. Locke at the Veterinary and Milk Control Department, Sunlight House, Quay Street, Manchester.

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LEGAL NOTES

Tuberculous Meat Sent to London: Borough Council Fined.—The Mayor, Aldermen and Burgesses of the Borough of Swindon were summoned at Clerkenwell Police Court recently, on the information of Thomas Penman, Sanitary Inspector for the Metropolitan Borough of Finsbury, for depositing for purpose of sale at Charterhouse Street, E.C., two hindquarters of cow beef which were unfit for the food of man.

Mr. Vernon Gattie, counsel for the defence, tendered a plea of guilty.

"The summons is a rather unusual one, because of the position of the defendants, as a public authority," said Mr. William Ricketts, solicitor for the prosecution. It appeared, he said, that in February a cow was suspected of tuberculosis and was referred by the Wiltshire County Veterinary Inspector to the local authority. His opinion was confirmed by the Swindon veterinary inspector, and the animal was duly slaughtered. The chief sanitary inspector then examined the carcase and condemned the offal and the forequarters, which were, apparently, destroyed.

"He made what was apparently an extremely cursory examination of the hindquarters," said Mr. Ricketts, "and both he and the medical officer passed these hindquarters as being fit for human food."

They were despatched to London, he added, and in the vicinity of Smithfield Market were seen by Inspector Penman, who found that they were in fact affected with generalised tuberculosis and quite unfit for human food. They were brought to court and condemned by the magistrate. When inquiries were made, it was

found to the astonishment of the Finsbury authority, that the persons responsible for sending the meat were the local authority at Swindon. The Swindon sanitary inspector came to London, and the explanation he gave was that, although he had examined some of the glands, which he found free from disease, he had not examined others, because he was anxious to preserve the saleability of the meat.

"That may be a satisfactory explanation from his point of view," commented Mr. Ricketts, "but it is not a satisfactory explanation from our point of view, and under the Tuberculosis Order, 1925, the local authority become under one of the express sections the owners of the meat."

He suggested that by the sale of the two quarters, after the owner had been compensated in the proportion provided, the rates of Swindon would have been relieved of the incidental expenses, and that this might have been the object the inspector had in view. "I can only emphasise," he added, "that this is a wholly dangerous practice, for a local authority established for the purpose of preventing the spread of disease locally, to be so utterly reckless."

Mr. Vernon Gattie said that as soon as the matter was brought to their attention the Swindon Borough Council did everything they possibly could. They had every right to rely upon their chief sanitary inspector—the official in question—who had occupied that post for ten years without any previous complaint. How this came about counsel did not know, but the Corporation would not have benefited as Mr. Ricketts suggested, because 75 per cent. of the proceeds of sale would have gone to the Ministry of Agriculture. The inspector himself would have had no financial benefit at all. The Council had intimated that after the police court proceedings they would take any steps that were necessary with regard to their officials. On behalf of the Corporation he could only express their regret, and add that it was fortunate this meat came under the eagle eye of Mr. Penman.

Mr. Bertrand Watson said both parties had shown their appreciation of the fact that these regulations must be rigidly enforced in the public interest. He thought that the Finsbury Council and the ratepayers and general public had been fortunate indeed that this matter came under the vigilance of Mr. Penman.

A fine of £10 and ten guineas costs was imposed.

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MILK MARKETING SCHEME: PROPOSED AMENDMENTS

On Monday last the Milk Marketing Board issued the amendments to the marketing scheme which will shortly be voted upon by registered producers. There are five important amendments affecting the principles of the scheme. It is proposed that wholesale producers having four cows and less should no longer be exempt from the scheme.

It is stated that these very small producers, with no levies to pay, have generally been prepared to sell their milk at the pool price to distributors, so that this milk curtails the liquid market available to registered producers who have to bear their share of the loss incurred on milk used for manufacturing purposes. Difficulties have also arisen by small producers trying to avoid the scheme by pretending to share out the cows among members of their families in order to avoid the payment of levies.

Another amendment is designed to eliminate some of the anomalies which now exist because of the variation in the freight charges borne by individual producers to different approved depôts although these depôts may be in the same region.

An important change is proposed in the method of assessing levies payable by producer retailers. Under the scheme as it stands this levy has risen in some months to over 3d. a gallon through the heavy increase in the quantity of manufacturing milk with which the board has to deal, and producer-retailers, who look after their own "surplus," have objected strongly to this additional burden on their business. It is now proposed that producer-retailers selling tuberculin-tested milk should pay ½d. a gallon into the pool, those who sell Accredited milk, as many do now, will pay ¾d. a gallon, and those who sell other milk will pay 1½d. a gallon. In this way the producer-retailer will have an incentive to produce milk of the higher grades, which should give the public confidence in the quality of the milk supply in country towns and villages as well as in large towns where milk is pasteurised.

Another important amendment affects the procedure by which registered producers can demand a poll on the revocation of the scheme. In order to avoid the possibility of frivolous demands for a poll being made each year, it is proposed that at least 5,000 registered producers must sign the demand, and that no poll shall be held without the consent of the board within three years of a previous poll on the same question. There are about 150,000 registered producers all told.

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DEPARTMENT OF AGRICULTURE FOR SCOTLAND

A report recently issued by the above Department contains some interesting facts about the Department's live stock improvement schemes. Under the scheme for cattle improvement, 280 bulls belonging to the Department were lent out to crofters in the congested districts, and grants were made in respect of 710 bulls purchased or hired by committees or societies of small farmers throughout the country. Of these premium bulls 613 were Aberdeen-Angus and 76 Shorthorns.

Particulars are given of the operations during 1935 under the Licensing of Bulls Act. It is stated that 8,349 applications for licences were received, of which 181 were withdrawn. The inspectors granted 7,646 licences and refused 487; licences were not issued in respect of 135 bulls that were exported, and 27 bulls went into England before inspection. In this regard the *Scottish Farmer* (reviewing the report) says: "One would expect these licensed and unlicensed bulls to tally with the number of applications; but actually they account for 127 more bulls than the number of applications received. There were 32 appeals in respect of rejected bulls, and 17 of these were sustained, while 14 were refused. The Ministry of Agriculture reported in September last on the first year's operations of the Act in England, giving merely the number of bulls of each breed licensed and the number rejected. This appears to be a more satisfactory, or at least a less confusing manner of reporting on the Act.

"As far as heavy horses are concerned" (proceeds the *Scottish Farmer*) "the Department's activities are limited to the administration of the Horse Breeding Act, 1918, and refusing to licence stallions that are of defective conformation or physique, or are suffering from certain specified diseases or defects. The grants in aid

of heavy horse breeding were withdrawn several years ago and have not been restored, although the Ministry of Agriculture has continued to give financial support to heavy horse breeding south of the Border. The Department's assistance to horse breeding is confined to Highland ponies, and eight stallions of that breed travelled the crofting districts in 1935. For sheep improvement in the Highland counties (Argyll, Inverness and the North) 635 Blackface and Cheviot rams were hired out to grazing committees, and financial assistance was given for the hiring from farmers of 470 rams all of the same two breeds except for four Border Leicesters. In pig-breeding, premiums were paid in respect of 139 Large White and six Large Black boars, and grants totalling £85 were paid to goat keepers in respect of 15 stud goats. Under the poultry improvement scheme 4,027 dozen eggs and 1,351 dozen day-old chicks were distributed in 1935. Under the live stock improvement schemes the Department supports the Milk Records Association, runs a laying test, gives financial assistance to agricultural shows in crofting districts, and provides veterinary services for small holders' stock in certain parts of the Highlands and Islands. Something of the nature of this last mentioned service may be gathered from the fact that the veterinary surgeon for Zetland in 1935 travelled 11,000 miles and performed 29 major and 118 minor operations; while the veterinary surgeon for Lewis travelled 5,600 miles and made 418 visits to crofters and small farmers for the treatment of stock."

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OLYMPIA HORSE SHOW

Great success is predicted for the twenty-fourth International Horse Show to be held at Olympia, London, from May 30th to June 9th, under the patronage of H.R.H. the Duke of Gloucester, with Field Marshal Viscount Allenby as President, the spectacular programme being more ambitious than ever, while the entries in the many classes are far in excess of last year.

In addition to the morning eliminating trials, there will be 18 afternoon and evening sessions, each differing from the others both as to classes and competitors. At all performances a speciality will be made of jumping round the course by international contestants. The two chief jumping tests take place at gala matinees on Tuesday, June 2nd, when the King George V gold trophy is given to the military officer of any army who makes the best round, and on Thursday, June 4th, when teams of three officers from all armies may compete for the Edward, Prince of Wales' Cup. The Duke of Connaught presents an award for the most accomplished British officer.

A fascinating feature in every programme is provided by the historic Imperial Riding School of Vienna, the personnel presenting an equine ballet of *haute école* which is recognised as a supreme example of graceful horsemanship. For centuries the type of thoroughbred they ride was cultivated by the Emperors of Austria, and the present régime maintains the costly establishment, very rarely allowing the superbly uniformed men and their valuable animals to be seen out of the country.

For the first time 26 men of the Metropolitan Police will produce a combined display on horses and motor cycles operating in conjunction to reveal the latest methods of traffic control. The policemen will illustrate the degree to which horses are schooled to work with mechanised transport, and will emphasise the high standard of discipline necessary to enable both animal and machine to carry out complicated evolutions in the service of the public.

Among other novel attractions will be the indoor polo championship, for which several renowned clubs have entered. This will be the first time that such games have been witnessed in this country, and on every evening there may be seen a swiftly played match between three men on each side mounted upon specially trained ponies of international fame.

In addition to the harness and riding classes, there will be the exciting high jump, a coaching Marathon from Richmond Park, the hurricane scurry stakes where speed counts as well as clean jumping, hunt teams from the shires, spanking tandems, officers' chargers, Shetland ponies, jumping for children, and, of course, that joyous carnival, the judging of the best of London's donkeys driven by the pearly kings and queens of costerdom.

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SIXTH WORLD'S POULTRY CONGRESS, LEIPZIG, 1936

The original intention to hold the Sixth World's Poultry Congress in Berlin had to be abandoned on account of the disastrous fire which destroyed the two halls in which it was intended to hold the exhibitions. Leipzig has, therefore, been chosen as the venue of the Congress, and is very suitable for the purpose owing to its central situation and the existence of excellent grounds and buildings. The papers will be read in the German Library and will comprise contributions on the subjects of instruction in physiology and feeding of poultry; hatching, breeding, and heredity; disease, economic questions; and rabbit breeding. The object of the papers will be to disseminate up-to-date information on these special subjects connected with the industry.

In addition, national exhibits will be staged to demonstrate the present methods of the poultry industry in the participating countries, also the most useful apparatus and equipment for breeding and production.

These congresses are organised triennially by the World's Poultry Science Association and have been held recently in Italy (1933), England (1930) and Canada (1927).

The German organisers of the Conference invite all persons associated with poultry and rabbit breeding to participate. The representation of the British Poultry Industry is being arranged by a National Committee whose Secretary, Major Ian Macdougall, *O.B.E.*, 73, Southampton Row, London, W.C.1., will supply, on request, copies of the official programme, particulars of membership, transport, hotel accommodation, etc. In connection with the Congress, which lasts from July 24th to August 2nd, a special tour has been arranged from August 3rd to 10th and includes visits to Nuremberg, Munich, Stuttgart, Heidelberg, and Frankfort; also a boat trip on the Rhine. Special arrangements have also been made for Congress members to visit Berlin.—*J. Min. Agric.*

The Editor acknowledges, with thanks, the receipt of the following: Communications from Major-General Sir John Moore (London), Major G. E. Oxspring (Aldershot), Mr. W. Tweed (Taunton), and Major R. F. Wall (Boxmoor, Herts.).

Reports of meetings of the Yorkshire Division and Midland Counties Division, N.V.M.A., from Mr. E. F. McCleery and Mr. H. W. Dawes, respective hon. secretaries.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The views expressed in letters addressed to the Editor represent the personal view of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

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"THE FUTURE OF PRIVATE PRACTICE: CHESHIRE FARMERS AND COUNTY COUNCIL SCHEME"

To the Editor of the Veterinary Record

Sir,—In view of the fact that Mr. Kerr considers that my letter to the *Chester Chronicle* can only have had one purpose—that of attacking a well-established whole-time veterinary service—I should be grateful if you would insert in the *Veterinary Record* the offending letter, which I consider to be fair comment on a matter of public interest as reported in the Press.

I have no intention or desire to attack the Cheshire whole-time service. If there be no truth in the allegation that there is, or is likely to be, a shortage of veterinary practitioners in Cheshire, how did the subject come to be discussed, and how was it that Mr. Kerr happened to be present at the meeting to refute the suggestion?

Mr. Kerr denies that the report which appeared in the paper was a true report of what actually occurred at the meeting. As Mr. Kerr was the only veterinary surgeon who was privileged to be present at that meeting, one was forced to accept the report as published, which quotes four farmers, including the Chairman, expressing grave concern at the dearth of veterinary surgeons in the county. The only one who was reported as having stated that he thought there would be no dearth of practitioners was Mr. T. C. Goodwin, who claims to have initiated the whole-time service.

Mr. Kerr explains that his principal objection to my letter in the lay Press is because, in virtue of his position, he is debarred from answering it through the same medium—it is then perhaps merely a coincidence that Mr. T. C. Goodwin, in his reply in the current issue of the *Nantwich Chronicle*, uses on more than one occasion the same phraseology as Mr. Kerr uses in his letter in to-day's *Record*!

I fail to see what difference there is between attending a meeting for the sole purpose of explaining one side of a question, knowing that it will be reported in the Press, and writing a letter to the Press offering the other point of view; there are two sides to every question—up to now publicity appears to have been confined to one side only.

Concerning the last paragraph of Mr. Kerr's letter, the less said the better; it savours rather of a threat, and leaves an unpleasant taste in one's mouth. Has Mr. Kerr forgotten that once upon a time he was himself a struggling veterinary practitioner?

Yours faithfully,
H. W. Steele Bodger.

28, Lichfield Street,
Tamworth,
Staffs.

May 9th, 1936.

. . . . .

Following is the letter to which reference is made in the first paragraph of our correspondent's communication:—

The Shortage of Veterinary Surgeons

To the Editor of "The Chronicle."

Sir,—I have read with interest the report of the discussion on Veterinary Services which took place at the meeting of the Executive Committee of the Cheshire Branch of the National Farmers' Union, and I was not surprised to learn of the growing concern amongst Cheshire farmers at the shortage of private veterinary practitioners in their county.

That this shortage will become still more acute seems inevitable, because farmers and veterinary practitioners alike have as yet only experienced the thin end of the "whole-time" wedge. If, and when the full effect of the Diseases of Animals Committee's report is put into effect, contagious abortion, Johne's disease, and contagious mastitis will be added to the work of the full-time veterinary officer. The obvious and inevitable result of this will be the withdrawal of the veterinary practitioner from agricultural practice.

It is, perhaps, less obvious to county councillors that it is in general practice that the veterinary student receives his clinical training. The natural result of the extension of the whole-time service will be to restrict the clinical field and to starve the student so that the whole-time veterinary officer of to-morrow will be less fitted for his duties than he is to-day.

One read with surprise of Mr. Kerr's opinion that the extinction of smaller private practitioners was all for the good, and one wonders how many members of the Council of the Royal College of Veterinary Surgeons or the National Veterinary Medical Association would endorse Mr. Kerr's opinion? One could well believe that the income of the "prominent" veterinary surgeon whose books had recently been audited had shown no reduction, but how many of the remaining practitioners in the county of Cheshire could say the same thing?

Mr. Kerr is reported as saying that the full-time officials had far more time to deal with the tedious details than the practitioner had: "The examination of cattle did not take long; it was the microscopical examination of milk samples which took the time"—the impression being that the time of his assistant veterinary officers was taken up with microscopical examinations. Yet Mr. W. Garnett in a current article, states that in addition to the eleven county veterinary officers, "a layman was appointed for the collection of milk samples. This collector visits the various veterinary officers each day, and receives from them any milk samples which they have taken and conveys them to the laboratory for bacteriological examination"—which seems to refute the suggestion made by Mr. Kerr.

Concluding his remarks, Mr. Kerr states that "The full-time officials were anxious to do all they could to help the farmers; they would stick to them through thick and thin, but he had asked that the farmers would play the game by them." I can assure your agricultural readers that the veterinary practitioners are just as anxious, and certainly no less able to help the farmers.

Mr. Goodwin's contention that it was infinitely cheaper to employ the whole-time veterinary surgeon than the part-time official is misleading There is, I am sure, no practitioner in Cheshire who would not agree that the part-time service could have been carried out more efficiently, and certainly a great deal more economically, than was the case, but the fault lay, not with the part-time veterinary officers, but with extrava-

gant administration. Much better use might have been made of all the veterinary practitioners in the county, with one or more whole-time veterinary officers to advise, supervise, and co-ordinate the work.

It is the desire of the veterinary profession that the best possible use should be made of its units in the public health service, but surely the Council of the National Veterinary Medical Association is the body best qualified to judge how those units could be used to the greatest advantage! This Association has drawn up a scheme which was agreed to by all sections of the profession, and in this scheme both whole-time and part-time veterinarians play their part. Unless some such scheme is adopted as that recommended by the National Veterinary Medical Association, agriculturists will, in a few years, find that the number of available practitioners will be small and their quality inferior.

Mr. Goodwin also says that in Cheshire the whole-time veterinary officers are responsible for the quarterly inspections of over 2,000 farms, and as a result the County Council had to increase the staff from five district officers and a chief, to ten district officers, but I should like to point out that in Staffordshire, which has over 1,800 accredited producers (and where producers, incidentally, are free to employ either their own veterinary surgeon or the county veterinary officer), the vast majority of these inspections are carried out by the general practitioner, and I am quite certain that neither the Staffordshire County Council, the chief veterinary officer, nor the farmer have cause to complain that these inspections are not carried out in an exemplary fashion.

Yours faithfully,

H. W. Steele Bodger, *Hon. Secretary,*
Society of Veterinary Practitioners
(Division of the N.V.M.A.).

28, Lichfield Street,
Tamworth,
Staffs.

April 23rd, 1936.

POOR PEOPLE'S ANIMALS

To the Editor of the Veterinary Record

Sir,—Much has been heard in recent times of the fact that arrangements made for the provision of veterinary treatment for the sick and injured animals of the poor, on occasion, have been abused by people who could well afford to pay veterinary surgeon's ordinary fees, but who have attempted to avail themselves of these facilities.

There is no doubt that such people, so aptly described by Mark Twain as "The Incorporated Society of Mean Men"—and one might add women!—exist to-day as they did in his time, and they are undoubtedly a source of embarrassment and a cause of friction to the societies or clinics concerned. Such institutions naturally regard as their primary duty the relief of animal suffering, and all that can reasonably be done is to attend to the animal, explain to the owner the nature of the services provided by the clinic, and refer him or her to the nearest local practitioner.

I think, however, while heartily condemning such people, equal or more blame should be attached to those persons who, through ignorance, avarice or laziness, do not attempt to secure for their suffering animals any attention at all. My society has steadily advocated not only that qualified treatment alone should be given to a sick or injured animal, but that when an animal is known, or believed to be, hurt or ill, it should at once be examined by a veterinary surgeon. I think this is a fact that should also be remembered.

Yours faithfully,

Fergus MacCunn, *Chief Secretary.*

Royal Society for the Prevention of
Cruelty to Animals,
105, Jermyn Street,
London, S.W.1.

May 8th, 1936.

Diseases of Animals Acts

SUMMARY OF RETURNS

Period.	Anthrax.		Foot-and-Mouth Disease.		Parasitic§ Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks confirmed.	Animals attacked.	Outbreaks confirmed.	Animals slaughtered as diseased or exposed to infection.	Outbreaks reported by the Local Authorities.	Animals attacked.	Outbreaks confirmed.	Outbreaks confirmed.	Swine slaughtered.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Period 16th to 30th April, 1936	16	18	—	—	7	15	4	101	61
Corresponding period in									
1935	23	25	6	2,023	2	5	4	84	51
1934	19	23	—	—	8	8	12	44	26
1933	13	13	—	—	7	11	—	116	71
Total 1st January to 30th April, 1936	198	239	4	389	62	191	126	746	484
Corresponding period in									
1935	153	168	30	8,869	59	88	171	578	261
1934	169	176	1	31	75	122	311	518	286
1933	130	150	54	5,161	85	158	179	430	196

Note.—The figures for the current year are approximate only.

§ Excluding outbreaks in Army Horses.